GEORGIA

NATIONAL ASSESSMENT REPORT FOR SUSTAINABLE DEVELOPMENT

Executive Summary

CHAPTER 1. NATIONAL STRATEGY FOR SUSTAINABLE DEVELOPMENT

In this chapter critically important factors that impede the stable political and economic development of Georgia will be reviewed for the first time. The elimination of these factors is the prerequisite for the sustainable development of the country. The chapter will address these issues, paying attention to the ethnic-territorial conflicts on its territory, as well as their possible roots; poverty and related migration problems and the question of the shadow economy and associated corruption will also be discussed.

Because a national strategy for sustainable development does not exist in Georgia, the chapter assesses the process of environmental planning at the national and regional level. Other sectors related to environmental protection and the use of natural resources will also be analyzed. Their respective position and degree of integration into the indicative planning of the economic and social development strategy of Georgia will be described. In the course of assessing the planning system, the focus will be on the following aspects:

Organizational and management systems - currently the cooperation between and among the agencies of the central government and local agencies is fairly weak. Liabilities assigned to these agencies are vaguely defined and overlap;

Institutional capacity - civil servants and other employees working in agencies participating in the process of environmental policy planning have poor experience in strategic policy planning;

Resourcing - today politicians are insufficiently informed about the existence of environmental strategies and plans. Environmental protection enjoys formal support from politicians, however, aspects related to the environment are often neglected during decision making processes;

Political support - today politicians are insufficiently informed about environmental strategies and plans. Environmental protection enjoys formal support from politicians, however, aspects related to the environmental are often neglected during decision making processes;

Legal support - one of the major shortcomings of the current environmental legislation of Georgia is that the laws regulating the sector basically determine general legal norms and that in the majority of cases more detailed sub-legal normative acts for their implementation are not being passed;

The chapter ends with a set of recommendations for measures to be taken. They are ranked according to the relative availability of resources necessary for their implementation.

CHAPTER 2. INTEGRATION AND PARTICIPATION

The chapter assesses the extent to which strategies and plans currently existing in Georgia reflect an integrative approach to the development of the country. The chapter includes a brief review of the two strategic documents adopted in the recent years: the "Social-economic recovery and economic growth program of Georgia", approved by the Presidential Decree # 89 on March 10, 2001, and the "The Interim paper of the Poverty Reduction and Economic Growth National Plan of Georgia", approved by the Resolution # 1282 of the President of Georgia on November 30, 2000. The analysis demonstrates that in Georgia the integration of economic, social and environmental aspects into social-economic development planning is little taken into account. This could be explained by the lack of experience in strategic planning, the absence of a single vision for the country's development and institutionally weak state agencies.

The chapter also describes the "National Sustainable Development Coordinating Body" – the State Commission for sustainable development of Georgia - and briefly reviews the reasons for the inefficiency of the Commission. Recommendations regarding the implementation of the measures, which would be conducive to the strengthening of the Commission, are presented at the end of the chapter.

CHAPTER 3. CRITICAL NATIONAL ISSUES

3.1 SPATIAL PLANNING AND SUSTAINABLE DEVELOPMENT

This sub-chapter reviews the situation within the field of spatial development planning and the influence it takes on environmental policy making, specifically on the planning of measures targeting biodiversity protection and conservation. This sub-chapter:

- Discusses and assesses land reform, land privatization and the situation in the field of land cadastre;
- Reviews the legislation regulating spatial development planning, biodiversity protection and conservation;
- Reviews the management system and organizational structures of this sector.

The sub-chapter reviews the shortcomings existing in the field of land management and spatial development planning, which have an impact on the planning of measures targeting biodiversity protection and conservation. The old strategies for the spatial development planning of the country are characterized by several weaknesses, such as spontaneous land privatization and inconsistent land reform, insufficient information on land use and land ownership, imperfect and incomprehensive legislative frameworks regulating spatial development planning, undivided competencies among central, regional and local state bodies in matters of land regulation, weak coordination of activities and lack of cooperation among agencies. The duplication of functions within central governmental bodies involved in the management of land related questions is another fundamental weakness to be taken into account.

Recommendations that will be instrumental for the elimination of the aforementioned weaknesses are presented at the end of the sub-chapter. Recommendations on measures to be taken are ranked in accordance with the relative availability of resources necessary for their implementation.

3.2 ENERGY SECURITY OF GEORGIA

This sub-chapter discusses the following:

- The situation in the energy sector of Georgia as a country of transition to market economic structures;
- The present level of energy security and measures undertaken by the state to rectify the prevalent situation in the sector;
- The results of measures implemented and their respective impact on the energy security level are analyzed.

Recommendations for the implementation of what constitute urgent measures are given.

A number of indicators determine the level of energy security. The following indicators were used to assess the current level of energy security in the country: the domestic energy resource potential and the extent of its utilization; the degree of dependence on imported energy resources; the infrastructure of the system and its linkages with regional systems; system management methodology and its structure; state regulatory structures; the extent of local energy resource utilization; the financial status of the system; the potential for scientific-research; the level of efficient utilization of energy and energy resources; the levels of adverse impacts on the environment and human health during energy production and consumption.

The energy potential of domestic industrial reserves of organic energy resources, with the exception of coal, is rather low and the volume of production is insignificant. It is assumed that a considerable growth of production of organic energy resources is not likely in the near future. Georgia satisfies most of its organic fuel (natural gas, petroleum products) demands by imports, making Georgia extremely dependent on importers. The anticipated completion of the Baku-Tbilisi-Ceyhan oil pipeline and the Baku-Tbilisi-Erzerum gas pipeline in 2004-2005 will considerably increase supply reliability.

Georgian power generation facilities (hydroelectric power stations, thermal power stations) are unevenly distributed across Georgia. Their generation reliability is extremely low due to the extent of technological deterioration of plants and equipment. The reliability of electric power transmission networks is extremely low because high voltage lines extending across mountainous areas constitute the sole link between the western and eastern parts of the country. The capacity of the distribution network is equally low. The Georgian electric power sector is not capable of providing the consumer with a secure supply of energy. Speaking about a secure service provision in the hot water supply and heating sectors appears also premature.

Following the break up of the Soviet Union, existing sectoral funding systems collapsed but agencies and working methods remained almost unchanged. In the context of the newly established market economy, retaining old ways of managing the energy sector has led to widespread corruption, bad management, non-payment for consumed energy, irrational use of funds allocated for capital repair works, paralysis of the industry and so forth. The energy crisis was further exacerbated by political instability and the consequences of war.

The Georgian energy sector represents a branch of the economy in which investments exceed the volume of total investments in all other sectors. Regardless of the sizable investments that have been made in this sector, the energy status of Georgia remains extremely unsatisfactory.

The existing efficiency level for energy resource utilization in Georgia is extremely low. Yet, the potential for energy saving in the country is considerable and utilization of this potential would be possible by implementing a targeted energy policy.

Due to the incomprehensive nature of the monitoring system in Georgia, environmental impact assessments for the energy sector are usually approximate. Even more approximate are environmental impact projections for the medium and long-term because forecasts for the development of the energy sector for this period do not exist.

The impact on human health during thermal energy production has virtually not been studied.

At large, the level of secure energy provision to the population of Georgia is fairly low. In order to raise the level of energy security, it is essential to develop a sustainable and effective energy policy and ensure its gradual implementation.

3.3 GEORGIA'S FUNCTION AS A TRANSIT COUNTRY AND SUSTAINABLE DEVELOPMENT

The objective of this chapter is to assess Georgia's transit capacity and its impact on the sustainable development of the country. To achieve this objective, a review of the transit infrastructure of Georgia is carried out and an analysis of the current functional status of the transit sector will be given. Considerations and recommendations for the rational utilization of the transit capacity from a long-term perspective are given, taking into account key social, economic, ecological and political interests. The main conclusions that form the basis for undertaking a whole set of new measures are given in the list below:

The transit infrastructure of Georgia is in need of serious improvement. The traditional transport infrastructure is deteriorated and requires substantial upgrading. Only the Baku-Supsa pipeline conforms to international standards. The legislative framework is fragmentary and international commitments regarding infrastructure repair and maintenance often remain unfulfilled. A single transit infrastructure control system does not exist. Tariff policies are not flexible.

The declining competitiveness of the TRACECA Corridor. Complicated border crossing regulations, low traffic safety, high tariff rates, as well as an uncoordinated transport policy among countries situated along the Corridor result in increased costs for transit traffic and reduce its cost effectiveness. These weaknesses apply to the South Caucasus section of the TRACECA (Transport Corridor Europe Caucasus Asia) Corridor in particular.

The East-West Energy Corridor constitutes a major factor for sustaining Georgia's transit capacity. The Baku-Supsa oil pipeline and its operational regime, as well as the parameters envisaged by the Baku-Tbilisi-Ceyhan and Baku-Tbilisi-Erzerum pipeline projects are in compliance with international standards from engineering, economic and ecological standpoints, which are the main factors ensuring the competitiveness of the Europe-Caucasus-Asia Transport Corridor.

Georgia's capacity as a transit country, with its political, social and economic implications, is one of the county's major competitive advantages. Its transit capacity is the main factor contributing to Georgia's international importance, it being a prerequisite for security and economic growth.

Sustainable development principles are not integrated into planning related to transit capacity development. The development of Georgia's transit capacity predominantly focuses on its transport-economic aspect. At the same time, a transport policy aiming at profit and meeting budget liabilities in the short-term does not consider social and environmental principles that may come into conflict with the long-term interests for sustainable development of the country.

4. CRITICAL GLOBAL ISSUES: EDUCATION, TRAINING AND PUBLIC AWARENESS

This chapter reviews the levels of orientation of formal and non-formal educational systems toward sustainable development. The chapter shows that primary and secondary schools lack a environmental education system and that the curricula of higher educational institutions are very weakly oriented toward sustainable development. Existing shortcomings are partially eliminated by means of public awareness raising, capacity building and information dissemination campaigns, which are very often conducted by various donor-funded projects. The chapter also briefly discusses the draft of "The State Program for Ecological Education of the Population and Action Plan". Here the authors sought to lay the groundwork for the establishment of a single environmental educational system and the implementation of a targeted policy in this area.

The chapter concludes with a set of recommendations on the improvement of environmental education in Georgia and actions that need to be taken to ensure the integration of this aspect into the educational system of the country.

CHAPTER 5. VISION FOR THE FUTURE OF THE COUNTRY

This chapter sums up the analyses presented in the previous chapters of the report. In particular, the chapter singles out those factors that hinder the effective planning and implementation of measures for a sustainable development of the country. Suggestions for possible ways of resolving this problem are given. The chapter concludes with the argument that the potential effectiveness of measures proposed for implementation first and foremost depend on the existence of a common national vision on the direction of the country's development. Such a vision could be developed within the framework of a national strategy for sustainable development for the country, aiming to ensure the compliance and compatibility of economic, social and environmental interests.

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1. NATIONAL STRATEGY FOR SUSTAINABLE DEVELOPMENT

After the break up of the Soviet Union, Georgia embarked on the road of building a new democratic society. In comparison to other post-soviet countries, for Georgia the transition from a centrally planned to a market economy turned out to be more difficult. Like other post-soviet countries, Georgia had experienced the collapse of its national economy, the exacerbation of social problems and rising levels of crime. However, in contrast to other countries, Georgia has suffered from civil wars in South Ossetia and Abkhazia, tensions within its society and a plethora of other problems. Seventy years of Soviet rule have left their mark on every sector of Georgia's economy and social life, including the system of environmental protection. High levels of poverty, corruption and the shadow economy are still problems that need to be dealt with.

Nevertheless, today Georgia is gradually recovering from this crisis. A number of positive social, economic and political measures were carried out during the last years. Important steps have been taken to guarantee Georgia a place of its own within the international community. It is noteworthy that nowadays Georgia is a member of or a participant in more than 105 international organizations.

Still in the process of building a democratic society, Georgia is at present undergoing the difficult task of political self-establishment, structural and institutional reform and the transition to a market economy. In spite of numerous political, economic and social problems that accompany this transition period, the state endeavours to make environmental protection an integral part of the process of economic revival and subsequent economic growth.

1.1 Factors impeding the development of the country

Prior to outlining and assessing the measures that have been undertaken in Georgia to ensure sustainable development, it is essential to mention those critical factors that impede a stable political and economic development of the country, the elimination of which are the prerequisites for the sustainable development of Georgia.

First and foremost, the conflicts in Abkhazia and the Tskhinvali region (South Ossetia) can be identified as such factors. As a result of these conflicts the number of internally displaced persons (IDPs) in Georgia nowadays exceeds 300 thousand whereas the indicated administrative-territorial units are *de facto* beyond the jurisdiction of the Georgian authorities. The situation has been aggravated by continuous tensions between the authorities of the Adjarian Autonomous Republic and the central government, separatist aspirations in certain regions, particularly those administrative-territorial units which are densely populated by ethnic minorities, and finally, the issue of the Pankissi Gorge near the Georgia-Russian border, which has lately turned into a shelter for criminals and kidnappers.

The above mentioned ethnic-territorial conflicts and other potential areas of future conflicts, which are frequently perceived as instruments of manipulation of external forces, hinder the

process of democratization. Political decentralization and territorial consolidation of the country are only in their initial phases.

The poverty problem is also very acute on Georgia's agenda. Currently, nearly 60 per cent of the population of the country live below the poverty line, i.e. subsistence minimum[1], and approximately half of those people live in absolute poverty. The poverty level is higher in urban as compared to rural areas. In cities, however, the situation is better in terms of access to education and health care.

The problem of emigration should also be considered in the context of poverty. According to the latest data, approximately 20 per cent of the population have left the country. The principal reason causing emigration is the severe social and economic situation in the country. Scarcity of high-income places of work and the unfavourable business environment force people to search for sources of income outside the country. If we take into account that the existing economic crisis has led the most educated part of the community to emigrate[2], and provided that the current scale of emigration continues, a significant drain of human resources from Georgia is to be anticipated. In the long run, this could lead to a further deterioration of the situation in the country.

In spite of the fact that a number of measures have been carried out, the issue of legalizing the shadow economy and the elimination of related forms of corruption still remain an major problem. According to existing data, over the last years at least 25-27% of Georgia's GDP was produced in the shadow sector. Of the factors conditioning the existence of the shadow economy, the following are particularly noteworthy: the existence of post-conflict/ conflict-affected zones and the correspondingly insufficient protection of economic boundaries; weak institutional arrangements; the persistence of the Soviet mentality; and the toleration of corruption by the general public as well as a low level of law-abidance. These count among the main factors for the persistence of the shadow economy in Georgia. The aforementioned factors constitute the main obstacles for the legalization of the shadow economy and the implementation of effective measures against corruption.

It should be stressed that solving the aforementioned issues is critically important for the future development of the country. However, up to now, the restoration of the territorial integrity of the state still remains the paramount priority. The settlement of the conflicts is an essential precondition for the creation of stable political, economic and social conditions in the country.

1.2 Strategy for Sustainable Development

The fact that the key principles of sustainable development are reflected in the Constitution of Georgia can be considered as an important step towards the adaptation of measures targeted at the transition to a sustainable development on a national level. Namely Article 37

[1] As per the data of February 2002 the subsistence minimum for an average consumer makes up 111,1 GEL.

[2] More than half of migrants from Georgia have third level education.

of the Constitution confers upon all citizens of Georgia the right to live in a sound, healthy environment, to make use of the natural and cultural environment and to receive full objective and timely information on the status of one's and living and work environment. Furthermore, pursuant to the same Article, the state must ensure the protection of the environment and the rational use of nature so as to ensure a safe environment for human health in accordance with the ecological and economic interests of society, also with respect to the interests of present and future generations.

The Law on Environmental Protection of 1996, which represents so-called "framework law", constitutes the basis for the establishment of a comprehensive environmental legislation of Georgia. The principles for the environmental planning system in Georgia are defined by this law.

Pursuant to Article 15 of the law, the environmental planning system should cover: a long-term strategic plan (strategy for sustainable development), a five-year plan (national environmental action program) and an environmental management plan for enterprises. According to the law, it is the responsibility of Ministry of Environment of Georgia to develop the strategy for sustainable development in collaboration with all agencies concerned. This strategy should represent a strategic plan built on sustainable development principles and ensuring the compatibility of economic and environmental concerns. In turn, the strategy for sustainable development should form the basis for the elaboration of the national environmental action program. The environmental action programs could also be developed on regional, local and sectoral levels. Pursuant to the law, the national environmental action program has to be a part of the county's indicative plan for social-economic development (this issue will be reviewed in detail in the next chapter).

In 1996, pursuant to Order # 763 of the President of Georgia, the National Commission for Sustainable Development of Georgia was founded. The primary objective of the Commission was to develop the strategy for sustainable development of Georgia. Despite the requirements specified by the Georgian legislation of 1996, no strategy for sustainable development has been elaborated up to date.

It should also be noted that according to the Law on Environmental Protection, rules governing the development and time-frame of the country's strategy for sustainable development, its national environmental action program and its regional, local and sectoral environmental programs, have be specified by the Georgian legislation. The same applies to environmental management plans for enterprises. However, so far these rules have not been specified by the Georgian legislation either.

1.3 Environmental Planning in Georgia

Although a strategy for sustainable development did not exist in the country, after the collapse of the Soviet system of management several attempts to organize environmental action planning and environmental protection on both national and regional levels have been made in Georgia.

The "State of the Environment Report", published in 1998, could be considered as one of the first attempts of planning environmental actions on a national level. The report was produced with the financial support of the TACIS program and the technical assistance of the European Environmental Protection Agency for the Fourth Pan-European Conference of Environment Ministers (Århus, Denmark). Although, the "State of the Environment Report" is a status report rather than a strategy or a plan, it identifies existing and emerging environmental hot spots at a national level, based on which priority actions could be designed.

In May 2000 the first "National Environmental Action Plan" (NEAP) was adopted by the Decree #191 of the President of Georgia. The plan identifies problems of environmental degradation that pose a threat to human health and biodiversity preservation and impede the economic development of the country. The plan outlines short and medium term objectives for the management and institutional development in the field of environmental protection and sustainable use of natural resources. The development of the NEAP was initiated in 1996 but was adopted only in 2000. The Ministry of Environment of Georgia coordinated the process of elaborating the plan and the World Bank provided financial support. Various state agencies, scientific institutions, non-governmental organizations and foreign and Georgian experts took part in drawing up the plan. Priority actions were identified through consultations conducted under the auspices of the Ministry of Environment of Georgia with the involvement of all interested parties.

As noted above, no statutory act specifying the rule for developing a national plan or its time-frame has been adopted up to date. Thus, the first NEAP was developed according to parameters determined by the World Bank. It should also be mentioned that the priority actions identified for inclusion into the national plan had already been earmarked for funding by international financial institutions. Unfortunately, the plan does not envisage financing any of the measures from the state budget or private investments. At the same time, the plan does not specify a mechanism for monitoring the implementation of respective measures. The plan also lacks an impact assessment strategy.

Notwithstanding the shortcomings outlined above, the adoption of the NEAP is a step forward in establishing an environmental planning system in Georgia. The elaboration of the national plan was the first serious effort directed at a systematic prioritization of environmental actions at a national level.

The "Georgia Integrated Coastal Management Project" (GICMP), which is currently implemented and financed by the World Bank, the Global Environmental Facility and the Dutch Government, can be given as an example of planning measures on a regional level. The GICMP was launched in 1997, although the origin of the GICMP can be traced back to the initiation of the regional "Black Sea Environmental Program" (BSEP) in 1993. This program has given rise to a number of institutions, actions and projects in different Black Sea countries, including the GICMP.

The Ministry of Environment of Georgia coordinated the development of the GICMP project. During the project design phase, intensive consultations were held with the Ministry of Urbanization and Construction of Georgia, the State Department of Protected Areas, the

Ministry of Health, the Ministry of Transport and other agencies. Non-governmental organizations were also extensively involved.

The main goal of the project is the effective integration of environmental planning and management into economic activities along the Black Sea coast and the strengthening of institutions to effectively manage Black Sea coastal resources. The project is carried out by the Integrated Coastal Zone Management Center, whereas the overall supervision of the progress of the project is conducted by the Ministry of Environment of Georgia in cooperation with central and local governmental agencies concerned.

As noted above, numerous measures have been carried out within the framework of the BSEP, including the "Strategic Action Plan for the Rehabilitation and Protection of the Black Sea" (BS-SAP), which had been signed in 1996 by the Black Sea Ministers of Environment. Under BS-SAP, each Black Sea coastal state is to prepare a "National Black Sea Strategic Action Plan" so as to ensure the national implementation of the BS-SAP. In order to fulfill the commitments determined by the BS-SAP, the National Consultative Commission for Integrated Coastal Zone Management was founded pursuant to Presidential Decree # 608 of October 25, 1998. The commission is composed of the representatives of central, regional and local executive authorities, members of the Parliament of Georgia, as well as of representatives of scientific institutions and NGOs. The commission is co-chaired by the Minister of Environment and the Ministry of Urbanization and Construction of Georgia.

The aforementioned Decree specified the main objectives of the commission and mandated it to develop a "Strategy and Action Plan for Integrated Coastal Zone Management", which is to be submitted for consideration. The strategy and the action plan are currently under design.

In the second half of the 1990s, there were a number of attempts of action planning in various areas of environmental protection and use of natural resources. For instance:

The Biodiversity Strategy and Action Plan – With the support of the UNEP, a "Biodiversity Country Study Programme" was completed in 1996. Between 1996-1999, with the financial support of the WB and the GEF, a "Biodiversity Strategy and Action Plan" was drafted in coordination with the Ministry of Environment of Georgia. "The Strategy and Action Plan" was based on the main principles reflected in the "Pan-European Biological and Landscape Diversity Strategy". The main aim is to ensure the preservation of the biological diversity of Georgia by planning and implementing adequate conservation measures and ensure the sustainable use of natural resources.

The Forestry Development Strategy – The strategy was prepared with the support of the WB in concurrence with the NEAP. The objective of the strategy is to define priority directions for forestry development in the transition period. The Ministry of Environment and the State Department of Forestry of Georgia coordinated the strategy development process.

The National Strategic Action Plan for the Rehabilitation and Protection of the Black Sea – The national plan was prepared in 1999 in coordination with the Ministry of

Environment and financially supported by the GEF. The action plan is part of the "Regional Strategic Action Plan for the Protection and Rehabilitation of the Black Sea" [3] and includes short, medium and long-term measures.

The National Programme on Climate Change and Action Plan – In 1996 a State Commission on Problems of Climate Change was established by Decree of the President of Georgia. In order to meet the country's commitments under the UN "Framework Convention on Climate Change", the decision was taken to develop adequate adaptation measures and to elaborate a national program on climate change and a corresponding action plan. For this purpose, a National Climate Research Centre was set up in the Ministry of Environment, which developed the abovementioned program and plan. "National Programme on Climate Change and Action Plan" determines the priority directions for investment projects and identifies research opportunities in the field of greenhouse gas emission reduction. It should be noted that subsequently a National Agency for Climate Change was established under the Ministry of Environment of Georgia. Currently the agency continues the work commenced by the National Climate Research Centre.

The National Programme and Action Plan for Phasing out Ozone Depleting Substances – The "National Programme and Action Plan" was prepared in 1997 with the financial support of the GEF. Despite the fact that Georgia does not produce any ozone depleting substances according to the Montreal Protocol, it does import them. Thus, the National Programme and Action Plan determines priority measures for strengthening the control over the import of refrigerants and the recovery and recycling of refrigerating agents.

The State Programme on Environmental Education and Action Plan – In 1999-2000 the Government of Georgia, assisted by the WWF, drafted the "State Programme for Environmental Education and Action Plan". The draft was reviewed and endorsed by a working group composed of the representatives of the Ministry of Environment, the Ministry of Education and the Ministry of Health, Labor and Social Affairs of Georgia.

The Strategy (Concept) of the State Programme for the Improvement of the Gasoline Quality in Georgia – The aim of the elaboration of the strategy was to determine the conceptual frameworks of future state programmes. These conceptual frameworks are intended to facilitate the improvement of the quality of gasoline and to curb the manipulation of fuel in Georgia. The State Commission was formed under the chairmanship of the Minister of Environment and is composed of representatives of all stakeholders, who also reviewed the strategy. In January this year the strategy was approved at the session of the government of Georgia.

National Action Programme on Combat Desertification – Under Decree # 282 of the President of Georgia, passed on July 15, 2001, the Permanent State Commission on Combat Desertification was established. The Commission is composed of representatives from various agencies. A scientific-consultative Council was also established within the Commission. Drafting for the "National Action Programme on Combat Desertification" started in September 2001. The programme sets out measures for the effective combat against desertification in Georgia.

[3] Bulgaria, Georgia, Romania, Russia, Ukraine and Turkey.

The strategies and action plans listed above were drafted and discussed during the course of several years. Today almost all of them still need to be approved by statutory acts, others are still under consideration.

1.4 Environmental Planning and its Role in the Indicative Planning System of the Social and Economic Development of the Country

Prior to discussing the planning process for sustainable development, the planning system for the social and economic development of Georgia shall be briefly reviewed.

1.4.1 Indicative Planning for Social and Economic Development

After the disintegration of the Soviet Union both the planning system for the national economy and the environment fell apart. The principles for a new planning system were outlined in the "Law on the Fundamentals for Indicative Planning of Economic and Social Development in the Republic of Georgia", enacted on October 11, 1994. The law was abolished in 1997 and a new "Law on the Fundamentals of Indicative Planning for Economic and Social Development of Georgia" was adopted.

Pursuant to the new law, indicative planning is of a recommendatory nature. It defines the strategies, objectives and major directions for social-economic development of the country and the means and methods for their implementation. The draft of the indicative plan is the basis for drafting the state budget. An indicative plan is to be worked out according to the programmes and proposals for the development of various sectors and branches of the national economy, as well as the territorial units of the country. Programmes and proposals for sectoral or territorial development can be elaborated by state agencies, executive authorities of autonomous republics, local self-governance and governance bodies.

An indicative plan can be worked out for short- (one year), medium- (five years) and long-term (10-20 years) periods. The President of Georgia takes the decision for the development of a long-term indicative plan. A five-year indicative plan is elaborated after presidential elections and it should reflect the general provisions of the pre-election programme of the President.

The indicative plan consists of the following three main components:

Concept of Economic and Social Development – This component of the indicative plan identifies the goals and priorities of the national policy for social-economic development of the country. Primary objectives and strategies for their achievement are identified. As a rule, this part of the plan outlines the long-term goals of the state policy and it is therefore usually reflected only in long-term indicative plans.

Prognosis of Economic and Social Development – This component of the plan determines the trends, prospects and different scenarios for social-economic development of the country. It is based on the analysis of the existing situation, taking into account the country's resource potential and external economic factors.

System of Economic Regulators – This component of the plan presents a set of legal, economic and institutional measures, as well as programmes earmarked by the state, designed to achieve the goals stated in the first two parts of the indicative plan.

Attention should be paid on state earmarked programmes, which assist the government to implement its structural state policy and its indicative plans. Earmarked programmes are being developed according to a specific time frame (short, medium and long-term) in line with the priorities identified by the indicative plan. The initiator of the programme is a governmental authority, the Council of Ministers of the Autonomous Republics, regional and local authorities, scientific and other institutions. State earmarked programmes could be developed further to implement industrial, scientific, social-economic, institutional as well as environmental measures. Earmarked programmes are either fully or partially financed by the state budget.

The programmes are submitted to the Ministry of Economy, Industry and Trade, which establishes a special commission for the selection of priority programmes. Pursuant to the decision of the special commission, the programme proponents and representatives of the agencies interested participate in the reviewing process. First, a number of programmes to be implemented is selected from the list of priority programmes. This list is subsequently presented to the Foreign Investment Consultative Council set up under the President of Georgia. Following a review at the meeting of the council, the President of Georgia approves the list. Finally, the list is attached to the draft indicative plan of the upcoming year to be subsequently considered in the draft state budget.

It must be stressed that the procedures and methodology defined by the current legislation to determine short, medium and long-term strategic priorities, as well as a methodology for developing, approving and prioritizing state earmarked programmes, requires significant improvement.

1.4.2 Environmental Planning – Planning for Sustainable Development?

Individual subchapters of the indicative plans for the country's social-economic development described previously are usually devoted to the regulation of environmental protection and use of natural resources. The sub-chapters deal with both the concept of social-economic development for the country and prognoses thereof, as well as the system of economic regulators of the country. It is to be noted, however, that in the system described above, environmental planning is not an integrated, but an artificially added part. The same could be said about other sectors of the economy. Against the background of limited budgetary resources, weak inter-institutional cooperation, imperfect legislative frameworks, the existence of various strategies, concepts and other political documents approved by presidential decrees and resolutions of the Parliament of Georgia, one could

hardly identify any sector of country's economy, which could not be counted as a priority. Under such conditions every sector, i.e. state agency concerned, seeks to develop its own "agenda" to attract as much funds as possible in order to sustain itself.

On May 25, 2001, the "Indicative Plan for Social-Economic Development of Georgia" for the years 2001-2005 has been approved by Decree # 513 of the President of Georgia. Despite the document's recommendation that environmental protection and use of natural resources should be a constituent part of country's economic development strategy, environmental protection and the regulation of the use of natural resources still remain not integrated into the proposed medium-term plan for the development of the country.

1.4.2.1 Organizational and Management Systems

At present the planning of environmental measures is mainly carried out by a number of state agencies. These are : the Ministry of the Environment, the Ministry of Health, Labor and Social Affairs and the State Forestry Department. According to their field of competence as defined by the Georgian legislation, the Ministry of Agriculture and Food, the Ministry of Urbanization and Construction, the State Department of Land Management, the Ministry of Transport and Communications also participate in the planning of environmental measures. The Ministry of Environment determines the priority directions for environmental planning at the national level.

It should be noted that cooperation and communication among the aforementioned agencies is extremely weak. The existence of overlapping spheres of competencies, duplication of functions and the vague definition of responsibilities assigned to these agencies by the Georgian legislation prove this point. Frequently, agencies pursue their priorities independently and pay little attention to the interests of other parties. Collaboration among agencies often depends on personal relationships rather than procedures specified by the legislation.

Despite the fact that the Georgian legislation specifies procedures, which ensure the participation of all agencies concerned in reviewing the drafts of strategic documents, ultimately, the existence of such documents is known only to the agency drafting the document. The agency utilizes the document as an action plan for its own sector and attempts to attract funds from the state budget or donor organizations. The following factors provide an explanation for this situation:

(1) State agencies show little interest in strategic documents developed by other agencies since they consider such a document not to have an impact on their future plans.

(2) The adopted strategic documents and plans are insufficiently integrated into the indicative plans for social-economic development of the country.

Attention should also focus on local self-governance and governance bodies. The "Law on Local Self-Governance and Governance" of 1997 delegated certain responsibilities to local self-governance and governance bodies, including the planning for social-economic development as well as the planning of environmental measures for the territories subject to their authority. It should to be noted, however, that the current legislation gives a rather

vague and broad definition of these responsibilities. The law does not determine the legal relationship between local bodies and the regional administration. Although vague and general, the law also confers responsibilities to local authorities in the field of planning social-economic development and environmental actions. In addition, the mutual lack of trust between the center and the peripheries often generates tensions or results in cases where local authorities take decisions unilaterally within their vaguely, but nonetheless legally recognized, sphere of competencies. These decisions may not always be in line with the decisions made by the center.

As far as public participation in the planning of environmental measures is concerned, the involvement of the general public is limited to consultation and communities have no opportunity to influence and participate in the decision making process. Poor knowledge about an issue brought up for discussion or the lack of knowledge regarding the decision making procedures further reduce effective public participation in the decision making process.

1.4.2.2 Institutional Capacity

Civil servants who are employed in the agencies participating in the planning of environmental measures have poor expertise in strategic planning. This can be explained by the fact that during the 70 years of Soviet rule, all measures had been centrally planned and the Soviet republics' role was confined to the implementation of the decisions adopted at the center.

Local self-governance and governance bodies, apart from their vaguely defined sphere of competencies granted to them by law, do not have any experience in addressing local problems locally, which may also be considered as a remnant of the Soviet system. One can say that today local self-governance and governance bodies have a limited knowledge of and capacities for decision making and the management of resources on a local level.

In general terms it could be stated that, at the given moment, a culture of strategic planning and governance does not exist in Georgia.

1.4.2.3 Resourcing

The formal support of the state for the principles for sustainable development is not always reflected in terms of real support. This is clearly demonstrated by the financial support for environmental measures. If one takes a look at the state budgets that were adopted according to the indicative plans for social-economic development of the country over the past ten years, one notices a drastic decline of expenditures on environmental protection and not an increase. It could be said that environmental protection is considered as the least priority.

The majority of existing strategies and plans were developed with the assistance of various international financial institutions. In most cases plans include activities, which are solely designed to attract future funding from international organizations. At present, most measures undertaken and those due to be implemented in the near future, are carried out

with the financial support of donor countries and international financial institutions. This comes as no surprise, considering that the country today has difficulties not only in funding various sectors of country's economy from the state budget, but also in paying wages and pensions on a regular basis. Given the lack of political will and capacities, a reinvestment of financial resources gathered from environmental taxes and payments, does not occur. At present the funds allocated from the state budget are not enough for a normal functioning of state agencies, not to speak of carrying out various measures.

The remuneration of public sector employees is extremely low, which does not provide an incentive for staying in a position for a long time. In addition, even these low wages are not paid on a regular basis. State agencies are also ill equipped in terms of technical resources. This problem is particularly acute in regional and local bodies of state agencies. The scarcity of technical resources hampers effective a performance of state agencies in the field of planning, management and the carrying out of control functions entrusted to them.

Attention should also be drawn to the field of data collection and information sharing by state agencies. These activities are characterized by the frequent disruption or non functional data-gathering systems, lack of cooperation among agencies involved in data collection and a lack of contemporary information sharing/receiving systems.

1.4.2.4 Political Support

It should be outlined that today politicians are little informed about existing environmental strategies as well as various other sectoral strategic documents for the country. As a result of this, incompatible and contradictory decisions are frequently made. The lack of a common vision for the country's future in the context of a rapid change and proliferation of priorities could be considered as one of the reasons for the weaknesses in the decision making process.

It can be stated that environmental protection enjoys formal support from politicians. This is demonstrated by the number of environmental laws and international commitments undertaken by the government of Georgia in the area of environmental protection over the last years. In fact, however, environmental aspects related to various issues are often set back in the decision making process.

1.4.2.4 Legislative Support

The laws adopted over the last years have laid the foundation for the Georgian legislation in the area of environmental protection and the rational use of natural resources. At present one of the major shortcomings of the environmental legislation of Georgia is that the laws regulating this sector essentially define general legal norms, but in the majority of cases lack more detailed sub-laws ensuring their enforcement. One of the main factors leading to the above is the lack of experience in elaborating sub-laws in the area of environment as well as the overall institutional weakness of governmental agencies responsible for their development. In addition, scarce funding and the lack of adequately trained staff in state control organs impede the enforcement of legal obligations.

1.5 Recommendations

The recommendations given below on measures to be carried out are ranked according to the relative availability of resources for their implementation.

First, recommendations on the implementation of those measures which could be carried out in a relative short term and at a low costs will be given:

- Define detailed procedures for developing the country's strategy for sustainable development in terms of national, regional and local environmental action programmes. This would ensure taking into account the interests of all stakeholders involved in the process of development, as well as enhance the transparency of the process through the monitoring of the measures envisaged by these strategies and programmes;

- Develop a national strategy for sustainable development, which should ensure the compatibility of economic, social and environmental concerns and determine the long-term goals of country's development;

- Improve the indicative planning system for the social and economic development of the country, particularly the methodology for prioritizing strategic actions, the elaboration and approval of earmarked programs; to determine in detail the control and monitoring mechanism for carrying out of priority actions;

- Specify more detailed and legally binding procedures for inter-institutional cooperation and coordination of actions during the decision-making process;

- It is essential to carry out measures aimed at greater transparency in the decision-making process and make information regarding the procedural norms of this process available to all stakeholders;

- It is essential to carry out measures targeted at providing more information to, deepening the knowledge of and raise awareness among the decision-makers on issues of sustainable development;

Recommendations for the implementation of measures which are relatively cost intensive and demand in depth consideration prior to their execution are presented below:

- It is essential to aim at the optimization of functions among the state executive authorities that participate in environmental planning. This could be achieved by a more clearly defining their competencies and responsibilities assigned and by restructuring the executive power. As a result, the duplication of functions would be avoided;

- It is necessary to separate state, regional and municipal properties and, accordingly, carry out a clear division of competencies among central, regional and municipal authorities not only in the area of environmental protection, but also in the planning and implementation of measures for the social-economic development of the country;

- It is expedient to set up a so-called "Environmental Fund" in which part of environmental taxes and payments that go to the state budget would be accumulated and subsequently used for carrying out environmental measures;

- It is expedient to introduce a "Debt for Nature Swap" mechanism. By applying such a mechanism, the foreign debt of the state would be reduced and the funds attracted through this mechanism could be used for carrying out environmental measures;

- It is essential to train the employees of the central, regional and local executive authorities in the area of strategic planning, to improve their qualifications and skills and provide them with adequate technical resources;

- It is essential to carry out measures to build and strengthen the capacity of local self-governance and governance bodies and local sub-units of state central executive authorities involved in environmental planning;

- A single information database with modern systems for information exchange should be established to be used by state authorities involved in the planning of environmental measures. Such a database should ensure the provision of information during the processes related to decision making;

- It is expedient to introduce a "Strategic Environmental Assessment" (SEA) to ensure that at the earliest stage of the decision making on sectoral strategies, concepts, programs and plans, environmental considerations are taken into account and undesirable consequences avoided;

2. INTEGRATION AND PARTICIPATION

2.1 The Integration of Economic, Social and Environmental Concerns

According to Agenda 21, the integration of environmental protection into economic development on a policy and planning level is considered as one of the preconditions for the progressive integration of economic, social and environmental issues that are economically efficient, socially equitable and environmentally sound. The integration of economic, social and environmental aspects into the policy making process is an extremely complicated process, which requires taking into account the interests of all stakeholders. That is why a particular role is accorded to the integration of these factors at all planning levels concerning the development of society so as to avoid an unbalanced development.

Currently, an integrated approach toward the development of the country is little reflected in the strategies and plans existing in Georgia. Over the last years there were a number of attempts of integrating economic, social and environmental concerns into the plans for the social-economic development of the country. Some of these attempts are briefly reviewed below.

On March 10, 2001 the "Social-Economic Recovery and Economic Growth Programme of Georgia" has been approved by the Presidential Decree # 89. The purpose of this document was to ensure the resolution of given problems, to increase national productivity and foster economic growth in the social-economic sphere in Georgia. According to the programme, in order to ensure social-economic recovery and raise living standards in the country, it is necessary to expedite economic growth. This would lead to poverty reduction and give rise to a modern, effective economic system, which would be integrated into the global commonwealth. According to the authors of this programme, "The document represents a single, comprehensive document which reflects the transformation processes ongoing in the country in the social-economic domain organically linking together all the directions of governmental policy" [4]. The programme is based on strategic documents such as the Five-Year Programme of the President of Georgia, the "Concept of Industry Development", "Strategic Plan and National Policy for Health Care Development", the "Strategy for Agricultural Policy", the "Indicative Plan of Social-Economic Development of Georgia for 2001-2005" and others. The programme also covers the measures stipulated by the NEAP.

Regardless of the goals of the programme, to the author the merging and integration of strategic development plans of various sectors of the economy into the "Social-Economic Recovery and Economic Growth Programme of Georgia" does not differ significantly from the indicative plans for the development of the country adopted earlier. The action plans of various sectors, which include the environmental aspects, are artificially joined and merely compiled in one document in order to give the impression of the integration of social, economic and environmental concerns.

[4] The program was developed by the Ministry of Economy, Industry and Trade of Georgia

The same could be said about the interim document of the "National Programme for Poverty Reduction and Economic Growth of Georgia" which has been approved by Resolution # 1282 of the President of Georgia on November 30, 2000. The purpose of drafting this document was to reduce the level of poverty in Georgia by ensuring sustainable economic growth. The adoption of the pogramme is the result of the joint initiative of the WB and the IMF for "heavily indebted poor countries" and the implementation in Georgia of the IMF "Poverty Reduction and Economic Growth Facility Programme". The enactment of the document actually should lay down the foundation for all IMF/WB lending programmes, as well as other partners. The interim document was already approved at the WB and IMF Board meetings. The IMF Executive Board also approved a new three-year programme for Georgia – the "Poverty Reduction and Economic Growth Facility"-, which envisages the disbursement of approximately 141 million USD in soft loans[5].

A Governmental Commission under the chairmanship of the President of Georgia was set up with the objective to develop the aforementioned programme. The commission is composed of the heads of various governmental agencies. To ensure its efficient performance, sub-commissions were set up. The heads of the executive bodies and chairmen of various parliamentary commissions participate in the work of the sub-commissions as do the representatives of international organizations and donors.

In spite of the fact that the above document had been prepared with the involvement of representatives from nearly all state agencies and international organizations, the document shows a number of shortcomings. A multitude of priority measures had been identified for overcoming poverty. However, in some cases the implementation of these measures may result in mutually exclusive outcomes and be not conducive to achieving the goals and objectives determined by the programme. According to the joint assessment of the IMF and the IDA, the document focuses on the development of various areas simultaneously. This is a result of the participation of a wide range of interested parties in the preparation of the document, who were given too little time to reach a consensus that would be acceptable to all parties involved. Against the background of the weak institutional capacity of the government, the low level of revenues and administrative corruption, the main directions for the policy, as well as the amount of investments and expenditures are not adequately defined. The above shortcomings could also be explained by the lack of experience in strategic planning, the non-existence for a common vision of the country's development and the institutional weakness of state agencies.

Even though the interim document of the "National Programme of Poverty Reduction and Economic Growth of Georgia" has already been approved by the Presidential Decree and endorsed at the World Bank and the IMF Board Meetings, the work on the programme is still ongoing. At present a discussion paper on the "National Programme of Poverty Reduction and Economic Growth of Georgia" is under review. This document represents a revised version of the aforementioned interim paper. Despite the fact that the document presented for consideration is as yet not comprehensive, it is noteworthy that, in contradistinction from the interim paper, efforts in terms of identifying measures for the

[5] The first and the second tranches (12 million USD each) have already been allocated directly after the approval of the aforementioned programme.

reduction of poverty and stimulation of economic growth, as well as the promotion of inter-institutional integration, are evident.

Finally, one more point has to be made. The three strategic documents for social-economic development of the country - (a) "Program of Social-Economic Recovery and Economic Growth of Georgia", approved by the Presidential Decree # 89 on March 10, 2001; (b) "Indicative Plan of Social-Economic Development of Georgia for 2001-2005", approved by Resolution # 513 on May 25, 2001 and (c) "National Programme of Poverty Reduction and Economic Growth of Georgia" that is currently being developed – are all targeted at reducing the poverty level by means of stable economic growth. However, since all the three documents have the same objective and that adopting the first two documents and working on the third one occurs in parallel, one is left with the impression that resources are inefficiently used. It is also not clear which document should serve as a guideline for state agencies, various enterprises and organizations and/or foreign investors and donors during the decision making process.

2.2 National Coordinating Authority of Sustainable Development

As mentioned in the previous chapter, a State Commission for Sustainable Development has been set up under Decree # 763 of the President of Georgia. According to the Decree, the commission was set up "in accordance with the decision of the Rio-de-Janeiro Conference on Environment and Development held in 1992 and with the view to develop the sustainable development strategy of Georgia"[6].

The President of Georgia chairs the commission. The Minister of Environment of Georgia is the appointed deputy chairman. In 1996 the persons holding the positions of the chairman of the Parliamentary Committee of Environmental Protection of Natural Resources, the Ministers of Finance, Foreign Affairs and Economy of Georgia and the person holding the post of the chairman of the Parliamentary Committee on the Environment between 1994-1996 also participated in the commission.

Pursuant to the Decree, the Ministry of Environment of Georgia was entrusted with the coordination of the work of the commission. The same Ministry was assigned the task of setting up a scientific-consultative council and an independent working group. This independent group was assigned to submit the results of its work to the Ministry of Environment of Georgia on a monthly basis and to the State Commission for Sustainable Development on a quarterly basis.

It should be noted that the heads of the governmental executive authorities who were members of the commission were frequently replaced. Since 1996 the President of Georgia, the Minister of Environment and the Minister of Foreign Affairs are the only selected

[6] As it was indicated in the previous chapter, the Strategy for Sustainable Development of Georgia has not been developed up to date

members of the commission who are still holding their respective offices. Nevertheless, appropriate amendments have not been made to the aforementioned Presidential Decree, since the composition of the commission has not changed per se, that is, persons who currently no longer hold the positions they used to hold in 1996, are still members of the commission. At present a restructuration process for commission membership is underway.

Unfortunately, the State Commission for Sustainable Development established under the chairmanship of the President of Georgia turned out to be inefficient. The lack of a common vision for the priority directions of the country's future development, weak inter-institutional cooperation, narrow circles of governmental agencies and other stakeholders represented in the commission, the non-existence of a methodological basis for developing the country's strategy for sustainable development, etc., can be identified as the main factors resulting in the commission's weakness.

It could be stated that the formation of the State Commission for Sustainable Development was an expression of the political will of the state and a response to global developments. At the same time, however, it has been recognized that financial resources would be attracted from international donors. Yet, this did not result in the initiation of effective measures, the creation of functioning mechanisms, or the provision of appropriate physical, financial and organizational resources.

2.3 Recommendations

The recommendations given below on measures to be carried out are ranked according to the relative availability of resources for their implementation.

First, recommendations on the implementation of those measures, which could be carried out in a relative short term and at low a costs will be given:

- It is essential that the composition of the State Commission for Sustainable Development be restructured in such a manner that would ensure the representation of all stakeholders from all sectors of the society in the commission. The commission must perform the role of the major catalyst, which should ensure the integration of economic, social and environmental interests into the country's development strategies and plans;

- The structure, rules and regulations, competencies and responsibilities of the State Commission for Sustainable Development should be specified in greater detail. It is also necessary to determine the commission's work plan;

- It is necessary to set up a secretariat within the State Commission for Sustainable Development. Adequately qualified technical and administrative personnel in the secretariat should ensure the proper functioning of the commission;

Recommendations for the implementation of measures, which are relatively cost intensive and demand in depth consideration prior to their execution, are presented below:

- The State Commission for Sustainable Development must elaborate a common vision for the future development of the country, set forth specific goals, strategies and action plans that are necessary to achieve these goals and lay down the monitoring and assessment mechanisms for the execution thereof;

- It is essential that the expression of the political will of the state be reflected in the technical and financial provisions for the work of the commission, meaning that adequate technical and financial resources should be secured for the functioning of the State Commission for Sustainable Development;

- It is essential to undertake measures for raising the awareness of the members of the State Commission for Sustainable Development both in terms of environmental questions in Georgia as well as global and regional agreements;

3. CRITICAL NATIONAL ISSUES

3.1 SPATIAL PLANNING AND SUSTAINABLE DEVELOPMENT

3.1.1 Land Resources of Georgia

Georgia is a high mountainous country. Lowlands cover 46% of the country's territory and are inhabited by nearly 85% of the population of the country. Almost the entire infrastructure, industrial and agricultural lands are located in the lowlands. Due to the fact that Georgia is a mountainous country, hay land and pastures (rangelands) constitute a large part of farmland. Arable land often requires land-reclamation measures so as to maintain high soil fertility rates.

The main user of the land is agriculture. Georgia has always been regarded as an agricultural country and, accordingly, the share of agriculture in the GDP of the country was high. It should be noted, however, that over the past decade this indicator has fallen considerably. For instance, in 1996 the share of agriculture in the GDP of Georgia made up 33.6 per cent, while in 2001 it reached only 19.2 per cent.

Today, the material and technical basis of the Georgian agrarian sector is not being modernized and production of agricultural products in farmer and private support holdings predominantly relies on manual labor which adversely affects the scale and efficiency of production. Insurance systems do currently not operate in the agricultural sector. Taking into account the frequency of climatic shocks, the lack of available insurance services aggravates agricultural losses.

According to data of 1999, farmlands made up 43.4% of the overall area of Georgia of which arable land amounted to 26.2%. 8.9% was under perennial crops, meadows and pastures constituted 64.2%and 0.6%of land was taken up by buildings and yards. Land covered by forests constituted 39.9% of the area of the country.

Water and wind erosion, environmentally degrading agricultural practices and other anthropogenic and natural processes has led to an almost 35% degradation of farmland.

Given the scarcity of arable land, soil erosion remains one of the greatest problems. 380 thousand hectares of arable land, 570 thousand hectares of pastures and hay lands and 87 thousand hectares of the Black Sea costal strip have been eroded. The erosion problem is particularly acute in mountainous regions. Along with natural processes, the cultivation of land on steep slopes (with a 20-30% gradient) without appropriate terracing, the excessive grazing and the uncontrolled logging of forests, further contribute to the acceleration of the erosion processes. Over the last year an active advance of desertification has been observed in eastern Georgia. Due to excessive grazing and adverse climatic conditions, nearly 3 thousand hectares of land in east Georgia have been subject to desertification. The salinization problem, which is more common in eastern Georgia, adds to the above. Currently, 59.220 hectares of land are severely salinized and 54. 340 hectares are averagely salinized.

3.1.2 Urbanization and Living Conditions

Since Georgia is a mountainous country, terrain plays a crucial role in the spatial distribution of settlements. The country is distinctly divided into west and east. Settlement conditions in both parts of the country are unique in terms of terrain and climate.

At present more than one third of Georgia's territory is populated. According to data of 2000, population density per 1 square km was 77.7. According to 1999 data, the number of Georgia's population reached 5.4 mln., of which 55.7% was urban and 44.3% rural. More than half of the urban population lives in one of the four main cities of Georgia: Tbilisi (38..8%), Kutaisi (7.7%), Rustavi (4.7$) and Batumi (4.2%).

The following observation related to internal migration is worth noticing: If previously internal migration occurred slowly (village – town – regional center – capital), nowadays the direction of migration focuses directly on the capital. IDPs from conflict zones, 32.6% of which have gathered in the capital, add to the above. As a result, Tbilisi remains the monopolistic center for education, culture and industry. According to the latest data, in 2001 nearly 50% of the overall production volume of manufactured goods in the entrepreneurial sector of the country has been produced by enterprises located in the capital.

In Georgia, 66% of families live in individual houses, 26% in blocks of flats and 8% in collective dwelling centers. 90.8% of the population owns apartments, 1.0% rent their living space from the state and 0.9% from individual private owners.

After the collapse of the Soviet Union, a small number of houses have been built in Georgia. Housing construction fell significantly between 1992-1998 (by six times at average), particularly in the public sector. Since 1999, a certain growth, although rather insignificant, has been recorded in the housing construction area, principally in the field of private construction. It should be noted, however, that the major part of private investments made in the housing domain were spent on refurbishing and the interior design of existing houses and not on building new ones.

The majority of city buildings are in a deplorable state. Over the past decade, minimal expenditures were made on repair works and most of the buildings are about to collapse. The share of depreciated houses, houses in emergency conditions and those requiring repairs make up 20.2% of the housing pool, while 13.3% of housing will be subject to demolition as a result of their condition. The number of houses prone to collapse grows rapidly, particularly in the old historical parts of cities. Instances of buildings collapsing are quite frequent and many families are left without shelter. This situation is also a result of privatizing amortized apartments free of charge, regardless of their suitability as living space. The state has thereby released itself from the obligation of providing the population with housing.

The earthquake of April 25 2002, during which six persons lost their lives, has seriously affected the residents of the capital. The earthquake has particularly damaged the old historical quarters of the capital. Some of the IDPs from Abkhazia who had found shelter in the capital have again been left without shelter. According to estimated data, approximately

400 houses have been demolished and several thousand buildings damaged in Tbilisi as a result of the earthquake. The overall damage caused amounts to approximately 160 mln USD.

Regardless of the fact that Georgia is a country abundant in fresh water resources, the current situation of water supply is extremely complicated. This is largely due to anthropogenic contamination, deficit of drinking water and low sanitary standards of the water supply system. 60% of existing water pipelines are depreciated. Their sanitary and technical conditions are unsatisfactory, resulting in frequent accidents and this, in turn, leads to water contamination. Due to water network damages, large quantities of water are lost. According to data of 1999, such losses amounted to 40% of the overall quantity of water supplied to households.

Due to the degradation of the water supply and sewerage infrastructure, the quality of drinking water often does not comply with human health and safety standards. 38% of the water supply pipeline system of the cities and regions belong to the high-risk water pipeline group in which the microbiological contamination index is high. Recently, the poor quality of water has resulted in several outbreaks of infectious intestinal diseases and epidemics.

3.1.3 Land Privatization and Land Ownership

The establishment of private land ownership in Georgia is considered as one of the most important achievements in the transition from a centrally planned to a market economy. While land was deemed common public property during Soviet times, following the first stage of land reform after independence, land was transferred to physical and legal persons into private ownership.

At present the Georgian legislation distinguishes two categories of land: land intended for agricultural purposes and land intended for non-agricultural purposes. However, it should be noted that there are still instances, due to certain inertia, where the old Soviet legislation is applied. This applies in to the state land fund, i.e. agricultural lands, farmlands, settled lands, land intended for industrial, transport facilities, resorts, nature reserves and other non-agricultural purposes, state forest fund lands, state water fund lands and the state reserve land, as specified by the 1971 Land Code.

During 1992-1996 a part of agricultural land had been privatized spontaneously, while the formal right of land ownership still remained in the hands of the state. Such partial privatization created certain problems in the agricultural sector. Due to the fact that private land owners enjoyed no formal right on land, they were unable to comprehensively enact their rights (purchase-sale, lease, collaterization, etc). This factor became a disincentive for investing in agricultural development.

In 1996 the “Law on Property Rights on Agricultural Land”, “Law on Land Registration” and “Law on Lease of Agricultural Land” were passed. These laws led to a partial liberalization of the land legislation. The enactment of these laws and the subsequent

adoption of a new Civil Code (1997) have actually laid the foundation for launching the second stage of land reforms and made it possible to conclude land related transactions. Therefore, the fundamentals for the land market have been established.

As of April 1, 2000, 25.2% of agricultural land have been transferred to private ownership, of which arable land represents 56.9%, 23.9% are under perennial crops and 16.6% under hay land and pastures. It is to be noted that the size of land plots transferred to private owners is fairly small (0.9 ha of land per family at average). The small size of plots and the fragmentation of farmland hampers effective land use. This has brought the issue of consolidating privatized land and the enlargement of land plots on today's agenda.

Today, approximately 75% of land intended for agricultural purposes are state owned, of which 975.5 thousand hectares, i.e. 31.7% of farmlands, are under lease. 1298.9 thousand hectares remained non-leased, of which 1115.9 thousand hectares are pastures (27.6% of the overall farmland; 86% of farmland that has not been transferred to private ownership and is not subject to privatization will remain in common use also in the future). From the remaining 183 thousand hectares, 86.1 thousand hectares are arable, perennial crops covering 55.0 thousand and hay lands 41.9 thousand hectares respectively.

The unfavourable location of plots, low soil fertility, the failure of old irrigation and drainage systems, desertification, secondary bogging, salinization and erosion processes can be identified as factors contributing to the non-lease and non transfer of land to private owners. In addition, the slow pace of registering land ownership rights can be explained by the fact that the existing registration system deals with owner registration only, which is an insufficient basis for the maximal enactment of land ownership rights and the conclusion of subsequent transactions. Moreover, land registration and the process of proving land ownership rights are time consuming since a thorough review of old Soviet data is necessary.

The fact that the majority of land users could not afford to pay the initial land registration fee can be considered as the biggest handicap of the registration process. In 1999, Decree # 327 of the President of Georgia on "Urgent Measures for Initial Registration of the Ownership Right on Agricultural land and Issuance of Registration Certificates to the Citizens of Georgia", has been enacted to address this problem, to expedite the initial registration of land and to facilitate the conclusion of legal land transactions. This Decree ensured that the initial registration of land plots was free of charge for citizens of Georgia. This led to a growth of interest from the side of private owners towards registering private ownership of land, thus speeding up the initial registration process. Unfortunately, however, the Law of Georgia on Registration Fees, passed on April 10, 2002, has made registration again subject to payment.

It is important to mention that land reform in Georgia has been initiated during a period of political instability, against the background of civil war, a drastic drop of living standards and in the absence of an adequate legislative, technical, methodological and administrative framework. As a result, the reform process was characterized by many irregularities related to land use.

3.1.4 Land Cadastre

Land privatization, the establishment of a real estate market and new forms of land management have led to an increased demand for the creation of a new land cadastre system. Today the availability of correct information on land resources and land related matters are extremely important, particularly in the aftermath of spontaneous land privatization.

It should noted that in Georgia the distribution and transfer of land into private ownership, as carried out under the land reform, did not occur on the basis of new data and accurate mapping. This is particularly the case in rural areas. Land use maps produced during Soviet times, containing accidental or deliberate errors, have been adopted unchanged as a basis for acts of acceptance and drawings attached were used as a basis for the privatization of agricultural land. According to the opinion of experts the agricultural land fund of Georgia, compared with the currently recorded one, may grow considerably as a result of clarifying these errors.

Boundaries of land plots and plots in inhabited areas are also recorded imprecisely. It could be said that the absence of a realistic picture of land use and land ownership patterns significantly hampers the process of spatial development of the country today. This problem is particularly obvious in settled regions. The absence of spatial development plans, which would reflect a realistic and up to date picture, as well as weak state control, have resulted in illegal construction activities in residential areas. This particularly applies to the capital and other irregular spatial-territorial development of populated areas.

The last time land cadastral works have been carried out in Georgia was in the 1980s, embodied a compilation of quantitative, qualitative and economic assessments of land data. Since 1994, various international financial institutions have been actively assisting Georgia in the implementation of a new cadastre system. Currently, there are seven donor organizations carrying out projects in the field of land management, completely or partially covering land cadastre and registration works. Almost all cadastre works carried out in Georgia are financed with the support of these international institutions.

It should be noted that the multitude of donor organizations engaged in the land cadastre and registration sector requires greater coordination of the their activities. It is noteworthy that these organizations started launching projects at different times and activities are predominantly carried out independently. Organizations often use different approaches and methods and at times even have different objectives. Different technologies are applied, personnel with various qualifications are hired, etc. Under these conditions, it is critically important to ensure that the outcomes of individual projects are compatible and not mutually exclusive. Given the lack of coordination among donors, the danger might arise that different cadastre-registration systems, based on different volumes and information sources, may get established in adjacent areas. With the aim of addressing this issue, a Donor Coordinating Council has been set up at the State Land Management Department of Georgia. The purpose of the Council is to coordinate donor activities in line with a common action plan.

Overall, one could say that land reform in Georgia is being implemented incoherently and on a piecemeal basis. Various laws, decrees, strategies and programmes adopted regulate only a certain spectrum of land related issues. However, the greatest shortcoming within the state policy framework regulating land related issues is that rules assigning jurisdiction over land issues to central, regional and local state authorities have still not been established. The lack of clarity over this matter hampers assigning juridical powers to central, regional and local state bodies for the effective management of land resources (forests, water, mineral deposits).

3.1.5 Legislation on Spatial Planning

At present spatial planning in Georgia is predominantly based on old Soviet legislative norms and regulations. The last spatial development plans have been developed in the 70-80s. Since then, national and regional programmes, regional planning schemes for distribution of industrial and residential areas, plans of cities and other residential areas have not been redesigned. In the early 90s, statutory acts have been issued on a periodical basis. These acts demanded either the prolongation of the period of validity of the old plans, their redesign or the preparation of new plans. All these attempts have failed, however, due to the economic crisis, the scarcity of financial resources, the absence of an appropriate legislative framework and, not least, due to the weak will of governmental authorities concerned in taking decisive steps toward resolving this problem.

Pursuant to the Decree of the President of Georgia on the "Measures Targeted at Implementation of the State Urban Construction Policy for Residential Areas of Georgia" issued on May 20, 2001, the period of validity of master plans for residential areas has again been extended to December 31, 2003. In addition, city municipalities and local governance bodies, in collaboration with the Ministry of Urbanization and Construction of Georgia, must ensure until then, that procedures for the adjustment of existing master plans will be undertaken. The Ministry of Urbanization and Construction has been assigned to work out and approve no later than July 1, 2001, instructions regulating the usage and housing of residential areas of Georgia. Until December 31, 2001, the same ministry has been assigned to work out and approve instructions for the adjustment, agreement and approval of master plans for residential areas of Georgia. Regrettably, neither of the two sub-laws have been passed up to date.

The only statutory act regulating, albeit to a limited extent, spatial planning in Georgia is the Law of April 16, 1999 on the "State Complex Expertise and Approval of Construction Projects". Pursuant to Article 2 of the law, the purpose of the law is to "raise the level of design decisions related to architectural planning and urban construction; successively improve the process establishing conditions for save living and human health and implement measures targeted at the protection of the natural environment". The State Complex Expertise intends to "verify and determine the compliance of construction projects with the Georgian legislation" and to "deny the construction of such facilities, the building and operation of which does not correspond to state norms and regulations".

Pursuant to the aforementioned law, urban construction documentation, i.e. regional planning schemes and projects, master schemes and plans of cities and other residential areas, urban construction development programs approved in a specified manner and targeted at territorial-spatial and functional organization, also require to be approved in a specified manner by the Ministry of Urbanization and Construction. Regardless of the requirements determined by the Georgian legislation, however, the "specified manner" referred to has not been defined up to date. It should be noted that the above mentioned urban construction document is the first instance where one encounters notions related to spatial planning in the Georgian legislation, although these notions are used in a vague, irregular (non-systemic) manner, without any further interpretation.

Presidential Decree # 626 on the "Limits and Manner of Arranging the Obligatory State Complex Expertise of Construction Projects" has been issued on November 21, 1999, to ensure the fulfillment of the obligations determined by the "Law of Georgia on the State Complex Expertise and Approval of Construction Projects". The Decree determines detailed procedures for conducting the State Complex Expertise. It is to be noted, however, that the Decree solely identifies the bodies responsible for carrying out the State Expertise. This has been done according to cost-estimates of construction projects and the location of project sites.

Order # 4 of February 12, 2001, was issued by the Ministry of Urbanization and Construction and aimed at meeting the obligations determined by the aforementioned law. The order approved the list of facilities and construction projects, which are subject to the obligatory State Complex Expertise. Here, for the second time, and again without any further definition, one comes across notions related to spatial planning of the country: housing master scheme, regional planning scheme (project), settlement master plan (scheme), detailed planning project (design) and housing projects. The aforementioned urban construction documentation is subject, according to the order, to the obligatory State Complex Expertise. According to the order, the State Complex Expertise is also in charge of the facilities to be built on "the areas of historical-cultural heritage, environmental, sanitary, resort…and other territories with restricted planning permissions".

3.1.6 Elements of Zoning in the Georgian Legislation

Despite the fact that a legislation regulating spatial planning does at the given moment not exist in Georgia, there have been a number of attempts to partially fill this legislative gap by means of zoning and limiting possibilities for further irregular spatial development in the country. Even though these statutory acts require improvement, since they are at times contradictory, they nevertheless limit to a certain degree the impact of uncontrolled spatial development on the environment, human health and cultural heritage. These statutory acts are the following: the "Law on the System of Protected Areas", the "Law on Tourism and Resorts", the "Law on Sanitary Protection Zones of Resorts and Resort Areas", the "Water Law", the "Law on Regulation of Sea Coasts and River Banks of Georgia and Engineering Protection", the "Law on Cultural Heritage", the "Law on Protection of the State Borders of Georgia", the "Law on Tbilisi", the "Law on Social-Economic and Cultural Development of

High Mountainous Regions", the "Law on Nuclear and Radioactive Safety", the "Forest Code of Georgia" and the Decree of the President of Georgia on the "List of Georgian Resorts and Resort Zones" issued on November 30, 1998.

Unfortunately, none of the aforementioned statutory acts required public participation in the process of determining zones. At best, these acts state the obligation of informing the public about current protection regimes and prohibited activities only after their execution.

3.1.7 Environmental Impact Assessment

In order to avoid likely negative impacts of an activity on the environment, human health and cultural heritage, special importance is attached to conducting an Environmental Impact Assessment (EIA) at the earliest stage of activity planning. The Georgian "Law on Environmental Permit" and the "Law on State Ecological Expertise" serve this very goal.

According to the EIA scale, in order to determine the nature of the activity and its potential impact on the environment, four categories of activities are distinguished by the Georgian legislation. A planned activity can be a project, a development plan or a programme. The issuance of environmental permits for activities in the first category[7] is prohibited without an EIA report and the conclusion of a state ecological expertise conducted by the Ministry of Environment of Georgia. An environmental permit for this category of activities is issued by the same agency.

The EIA procedure is not required for the remaining three categories of activities. The Ministry of Environment or its regional and local bodies issue environmental permits for these activities based on the positive conclusion of the state ecological examination.

Public information and participation in the process of decision-making is one of the key components of the environmental permission procedure.

3.1.8 Spatial Planning and Planning for Biodiversity Protection and Conversion

The development of the system of protected areas is regarded as one of the major tools for biodiversity protection and sustainable use of natural resources. Since the establishment of protected areas implies the allocation of certain areas for environmental protection and conservation purposes, as well as the establishment of certain protection regimes, restrictions or prohibitions of various activities in these areas, the planning of protected areas cannot be considered in separation from the country's spatial planning. This is the case when

[7] Any activity which by its scope, location and content may result in a serious adverse and irreversible impact on the environment, natural resources and human health.

environmental and spatial planning overlap. In the case of Georgia, however, this is different.

The protection of the environment by means of establishing protected areas has a long history in Georgia[8]. It should be noted, however, that during Soviet times the system of protected areas was essentially different from the currently existing one. During the Soviet period the establishment of nature reserves was the most widespread form of spatial protection of the environment in Georgia and in the entire Soviet zone[9]. Today, the new system of protected areas, still being in its initial development phase, is characterized by the existence of various categories of protected areas, which differ from one another by the level of strictness of the protection regime.

The Georgian "Law on the System of Protected Areas", passed on March 7, 1996, laid the foundation for the establishment of a new system for protected areas in Georgia. It is important to note that on the basis of this law the existing protected areas in Georgia were classified into international categories (determined by the IUCN). Since the five years of the law coming into effect, a number of shortcomings that need to be rectified have become evident[10]. Nevertheless, the enactment of the law played an important role in terms of focusing on the legislative aspect of developing the protected areas system.

At the moment, the establishment of the three categories of protected areas, supported by international financial institutions, is under way in three regions of Georgia: The Borjomi-Kharagauli National Park (central and south Georgia), the Kolkheti protected areas system (west Georgia) and east Georgia system of protected areas. The practice of establishing these systems of protected areas has demonstrated that there are three sets of problems that arise in the course of establishing protected areas. These problems will be briefly reviewed below.

The issue of availability of correct information on land use and land ownership becomes particularly acute during the establishment of protected areas. As a result of spontaneous privatization of land at the first stages of land reform and the absence of a comprehensive cadastre system, one often encounters the situation, where private or leased land lie within the boundaries of protected areas. Situations like this often result in conflicts with the local population.

Given the imperfect system of social-economic development planning for the country, the absence of a common vision for the country's future, the multitude of priorities and incoherent systems of spatial development planning, a situation has emerged where various agencies or interested parties have different views and visions on the future development of one and the same territorial unit[11]. Such differences of opinion, against the background of

[8] The first protected area created in the Caucasus was the Lagodekhi nature reserve established in 1912.

[9] Nature reserve regime implied the strictest protection regime for a territory.

[10] For example, the issues related to the specification of activities to be regulated within the boundaries of protected areas, inter-institutional coordination and public participation in the process of establishing the protected areas, division of competencies of governmental bodies participating in planning and management of the protected areas.

[11] Such is the case, for instance, of the Kolkheti National Park when one interest group deemed it expedient to protect the Kolkheti Wetlands by means of setting up protected areas while another group considered it more expedient to have an oil terminal built or peat extracted from this territory.

weak coordination among governmental bodies, became the reason for inter-institutional confrontation and conflicts among stakeholders.

Since the establishment of protected areas, the provision of alternative resources for employment of the local population in exchange for establishing restricted regime for undertaking activities within the boundaries of protected areas, became an acute issue on today's agenda.[12].

Financial problems associated with the establishment of protected areas arising from the economic crisis, particularly when it became no longer possible to access funds from the state budget necessary for the physical establishment (cadastre works, border demarcation works) of protected areas, add to the problems described above.

3.1.9 Organizational and Management Systems

Land related matters are currently managed by several state agencies. The State Land Management Department, for instance, is responsible for organizing and carrying out "land reform, land allocation, alienation (transfer), changing of intended land purpose, land use and protection state control, land cadastre and registration, land arrangement, land monitoring and assessment works". The Ministry of Urbanization and Construction is responsible for undertaking spatial planning measures[13]. The Ministry of Environment is responsible for developing and implementing state policies in the area of natural resource protection and rational use thereof. The entities that participate in the regulation of land management in the field of zoning exist in addition to the governmental bodies mentioned above. It is to be noted that coordination among the agencies participating in land management related matters is fairly poor.

One more circumstance needs to be mentioned. The "State Commission for Land Use and Protection" was set up pursuant to Presidential Decree # 160 of February 6, 1996. The aim of establishing the Commission was "to develop and implement a single state policy for land usage rules, land reform, land protection and efficient use". The principal functions of the Commission are the following: "Review of the issues related to the settlement of personal holdings relationships, rational use of land and the creation of conditions for increasing its productivity, land cadastre, land registration, land monitoring, land arrangement, land administration from the state land fund, land allocation, land use and protection, land use matters in the relationships among legal entities as well as taking appropriate decisions". Another task of the Commission is the: "Approval of perspective borders of the cities, regional centers, resorts, townships and villages; consideration and approval of the issues related to allocation of land plots for state and public needs".

[12] It is to be noted that the first steps are already underway towards the resolution of this problem in terms of engaging the local population in the sustainable management of forests located in the buffer zone of the Borjomi-Kharagauli National Park.

[13] In addition to the aforementioned function, the Ministry of Urbanization and Construction of Georgia is in charge of organizing sectoral and intersectoral relations in the area of construction and communal economy.

It should be noted that six years ago the establishment of the State Commission for Land Use and Protection could have been justified by the fact that by that time the legislation related to land protection, land use and management regulation was not yet comprehensive. Local self-governance and governance bodies as well as the State Land Management Department were only in the process of their establishment. Today this Commission actually duplicates the functions assigned to the aforementioned governmental authorities (State Land Management Department, Ministry of Urbanization and Construction and Ministry of Environment of Georgia), as well as those of local self-governance and governance bodies.

Pursuant to the Presidential Decree, the Commission is authorized to carry out the functions assigned to it by the Decree, i.e. "prior to the enactment of the new legislative acts on land". Despite the fact that today the existing legislation regulating land related matters is still imperfect and requires improvement, "the New Legislative Acts on Land" have already been adopted. Although the functions of the executive central governmental bodies have been distributed, the State Commission for land use and protection still continues to exist.

3.1.10 Recommendations

The recommendations given below on measures to be carried out are ranked according to the relative availability of resources for their implementation.

First, recommendations on the implementation of those measures, which could be carried out in a relative short term and at a low costs will be given:

- It is necessary to adopt a legislation regulating spatial planning which should determine: the administrative levels of spatial development planning; detailed rules for adopting spatial development plans, the revision of plans and exercising control over the implementation of these plans; to determine procedures for public participation in the process of adopting and revising plans etc.

- Prior to the passing of new acts, detailed rules for revising old territorial-spatial development plans should be adopted. These rules must ensure the participation of all interested parties in the process of amending these plans;

- It is necessary to pass legislative acts that ensure biodiversity protection and conservation, as well as consider the rational use of land resources (forests, water, mineral deposits) during territorial-spatial development planning;

- Duplication of functions assigned to governmental bodies must be avoided and appropriate amendments need to be made to the current legislation;

- When a new legislation regulating spatial planning is passed, amendments need to be made to those legislative acts regulating issues related to zoning;

Recommendations for the implementation of measures which are relatively cost intensive and demand in depth consideration prior to their execution are presented below:

- Land registration and the undertaking of cadastre works must be expedited since it is impossible to manage a resource if reliable information regarding its use, form of ownership or value does no exist;

- It is necessary to train and deepen the knowledge of the employees of the relevant governmental institutions to enable them to integrate the environmental and spatial development planning goals of the country into the planning process;

- Coordination and cooperation during the process of environmental and spatial planning for the country should be strengthened. This could be carried out by means of laying down detailed procedures specified by legislation. Another possible way of addressing this issue could be the unification of environmental planning and spatial development planning into one system;

- Even though the EIA is a useful tool for project planning, the conduction of the Strategic Environmental Assessment (SEA) for assessing environmental impacts of country's spatial development plans should be made obligatory by legislation;

3.2 ENERGY SECURITY OF GEORGIA

3.2.1 Introduction

Economic security is one of the main structural determinants for national security. Economic security cannot be achieved without an adequate, sustainable and effective energy basis. To this end, and, taking the current situation into account, it is essential to develop a sophisticated energy policy and ensure its stage by stage implementation.

One of the principal goals of elaborating energy policy and sectoral development planning is to ensure the energy security for the country and its people.

Energy security means the continuous and financial availability of the necessary quantity of various types of energy resources. Another definition of energy security states that a country should not depend on other countries for ensuring its energy supply.

It clearly ensues from the definition that energy security is directly related to the sustainable development of energy sources and that the measures aimed at raising levels of energy security will be conducive to its sustainable development. In Georgia, ensuring energy security is the principal responsibility of the government. In other countries, however, the market also shares this responsibility and the state performs the role of a regulator.

This report reviews the situation in the energy sector in Georgia, a country in transition to a market economy. The existing level of energy security and measures that have been undertaken by the state to remedy the situation in the sector are critically assessed in the section below. The outcomes of measures implemented and their respective impact on the level of energy security are also analyzed. Recommendations are given concerning the necessity to implement additional measures.

3.2.2 Major Energy Security Indicators

In order to make an assessment of the current level of energy security and to identify measures necessary to raise the level of energy security, it is essential to identify and analyze the major indicators that influence the proper performance of the energy sector. This report contains a review of indicators according to groups, which determine the level of energy security in the country. The following are among the major indicators:

1. Domestic energy resource potential and the status of its utilization;
2. The level of dependence on imported energy resources;
3. System infrastructure and links with regional systems;
4. System management methodology and structure;
5. State regulative structure;
6. The status of local energy resource utilization;
7. Financial status of the system;

8. Scientific and technical potentials;
9. The level of utilization efficiency of energy resources and energy;
10. The extent of adverse impacts on the environment and human health during the production and consumption of energy;

3.2.3 The Domestic Energy Resource Potential of Georgia and the Status of its Utilization

The energy potential of domestic industrial reserves of organic energy resources, with the exception of coal, is rather low and the volume of production output is insignificant. It is being assumed that a considerable increase of organic energy resource production in the nearest future will not occur.

Georgia is rich in renewable energy resources. About 25% of the existing resources for hydroelectric power generation are being utilized. Currently, energy generation is decreasing since individual hydroelectric power plants require significant rehabilitation works. As far as non-traditional energy sources are concerned (sun, wind), their utilization is as yet insignificant and discussing their role in the context of the energy sector of the country would be premature. The use of geothermal energy is very limited. The current level of firewood usage, which significantly exceeds permissible limits, is alarming.

Energy security significantly depends on the capacity of the system to operate sustainably in the event of a disruption of external links. In addition, the sustainable operation of the energy system minimizes the impact on the environment and human health. Proceeding from this, increasing the utilization of renewable sources of energy will significantly contribute to meeting both objectives (the development of renewable energy means energy diversification and reliance on domestic energy resources; the risk of being cut off from supply is minimized).

Considering the above, it is necessary:

- To assess the possibilities for using local coal for energy production for industrial and commercial purposes;

- To determine the current status of domestic production of natural gas and oil and identify potential opportunities and prospects for their development;

- To develop systems for the licensing and taxing of local production, the processing of natural gas and oil and the trading with petroleum products, which would be conducive to attract investments and set up a de-monopolized infrastructure;

- To prepare a state program for the utilization of renewable energy sources;

- Establish and put into effect a legislative-normative framework which would ensure the realization of the said program in the near future.

3.2.4 The Level of Dependence on Imported Energy Resources

Georgia satisfies almost all of its demand on organic fuel (natural gas, petroleum products) through imports, which makes Georgia extremely dependent on importers. The Government of Georgia spares no effort to regulate relationships with the providers of energy carriers since political pressure from their part is frequent levered. This is particularly true for the natural gas supply sector because alternative ways for resolving this problem have not been found yet. However, the implementation of large-scale regional projects, such as the Baku-Tbilisi-Ceyhan oil pipeline and the Baku-Tbilisi-Erzerum gas pipeline, which are anticipated in the nearest future, will considerably raise the reliability of supply.

With regard to the import of natural gas, price stability for natural gas over the last 2-3 years and the reaching of an agreement that the purchasing price of gas will not increase when the Baku-Tbilisi-Erzerum gas pipeline is put into operation, have to be assessed as positive. As far as the current situation is concerned, it should be noted that the natural gas distributing companies, whose privatization process is slowed down considerably by insufficient transparency, lack appropriate management skills and, very often, the necessary will. Due to this fact they are permanent arrear which, in turn, results in the constant likelihood for the population of being disconnected from gas supply.

In the oil sector, financially stable agencies have been set up. These agencies are responsible for the import and transit of petroleum resources. The transport sector is the main consumer of petroleum products. Given the minimal fuel oil consumption of thermal electric power plants, the import of petroleum products proceeds without significant impediments and the energy security in terms of oil is ensured. However, the extent of the vulnerability of the economy of the country to fluctuating oil prices and, accordingly, oil products, needs to be studied.

Due to the severe economic conditions prevalent in the country, the purchasing capacity of the population and enterprises is fairly low. Therefore, the importers of petroleum products (primarily local private companies) seek to import cheap (and accordingly poor quality) gasoline and diesel fuels, sometimes at the expense of environmental and human health safety standards. During winter when the demand on heating agents is high, a rapid increase of oil and liquid gas prices usually occurs. That is why, regardless of the physical availability of imported fuel, the energy security of a large part of the population is not ensured.

3.2.5 System Infrastructure and Links with Regional Systems

3.2.5.1 The electric power supply infrastructure

Electric power generation

The electric power generation system of Georgia consists of hydro- and thermal electric power plants. During the Soviet period, the total capacity installed generated 4,700 MW of which 2,700 MW were generated by hydropower plants and 2,000 MW by thermal power

plants. Throughout the past 12 years, due to the deterioration of technical conditions of plants and equipment, it became practically impossible to achieve maximum installed capacity levels of power plants. As of January 2002, operational capacities have been significantly reduced and generation amounts only to 1,700 MW. Over the recent years, electricity generation dropped considerably (from 14,000 GWh to 6-8,000 GWh), generating 1,500 kWh per capita annually, which is a very low indicator. The decline of electric power generation mainly concerns thermal electric power plants. This is due to their depreciation and lack of funds required for purchasing fuel.

In addition to the above, the generation reliability of plants is extremely low because of outdated technologies and depreciated equipment (forced shut downs 15% and greater).

Electric power transmission

The electric power transmission network is made up of 35-110-220-300-500 kV voltage lines. The reliability of the power transmission network is extremely low. The major reason for this is that large hydroelectric power plants are gathered primarily in the western part of the country and high voltage lines, laid across mountainous areas, provide the sole link between the western and eastern regions of the country. Severe climatic conditions impede the proper operation of transmission lines, especially during winter. Damages to lines are frequent, interrupting electricity transmission from the west to the east.

Distribution

The electric power distribution network is made up of 0.4, 6 and 10 kV voltage electric lines of 80,000 km total length in addition to substations. Georgia has been almost completely electrified up to date. Yet, the reliability of the distribution network is extremely low and requires significant investments. The situation is satisfactory only in Tbilisi. The Tbilisi electric power distribution network has been privatized and its majority share (control package) belongs to “AES-Telasi”.

Obstacles impeding the development of the power sector of Georgia

The uneven distribution of power generating facilities (hydropower plants, thermal power plants) throughout Georgia is a great problem. This is also a result of the policies of the 1960-ies when the use of medium and small size HPPs has been virtually denied. At that time the number of these facilities was close to 300. Emphasis was put on the construction of gigantic hydroelectric power plants. As a result, regions rich in hydroelectric power potential became practically dependent on the entire system, i.e. the state grid. Against the background of the energy crisis, the system is a rather unreliable source of energy supply. A large part of the rural population is cut off from the electricity supply system, particularly during winter. This reduces not only the level of living standards but also poses a threat to human health. It also significantly decreases the level of education by creating an information vacuum.

Yet, theoretically speaking, almost every region has the opportunity of using its local hydro-energy resources, albeit their realization depends on many factors. Some of these factors are the following: The country does not enjoy a favourable environment for the development of

small businesses. In regions where the rehabilitation and construction of small HPPs is underway, this problem is partially resolved. The unfavourable business environment is closely linked to the credit sector. In the case of small HPP rehabilitation, the credit amounts may largely exceed the present value of the HPP, which can therefore not serve as a guarantee for local banks. With the exception of Tbilisi, metering systems recording energy consumption need to be installed everywhere, particularly in the regions.

To determine the actual demand for electric power is a great problem. Until recently, there was a big difference between the estimates made by Georgian and foreign experts.
According to Georgian experts, energy should be supplied to consumers under any circumstances, which resulted in a rather high estimate for demand. In contrast, foreign experts determined the demand for electric power not by satisfying consumer demands and needs, but by a consumer's preparedness and capacity to pay for the energy consumed. The Tbilisi experience proved the feasibility of this approach. When the residents of Tbilisi realized that electric power is a vitally important product but that one must pay for it, and, given the limited payment capacities of the consumers, the population adapted to this situation and started to consume power economically in order to reduce monetary expenditures. The fact that nowadays people react much more sensitively to electric power tariff increases indicates that they feel accountable for consumed power. However, this sense of consumer accountability is not always matched by distributors, who fail to provide consumers with a continuous supply of quality power despite payments.

Paradoxically as it may seem, but in Georgia consumers of electricity pay more for guaranteed energy than consumers living in developed countries. Under conditions of unreliable power supply, almost all economically well off families and the majority of commercial institutions and enterprises have purchased a stand by/ back up source of energy, i.e. generators working on gasoline and diesel. Due to interrupted power supply, the market for petroleum products reacts by price increases and the cost of power produced by generators increases accordingly. At the same time, the intensive use of generators in cities creates noise and exhaust fumes problems.

Summing up the above, one can conclude that at present the electric power sector in Georgia cannot ensure the energy security of the consumer. In order to maintain the present situation in this sector and to ensure its subsequent sustainable development, a stage by stage programme for the upgrading of the electric power sector and its sustainable development needs to be elaborated and implemented.

3.2.5.2 Thermal Power Supply

The energy crisis that has developed in Georgia has gravely damaged systems of thermal power and hot water supply. Systems stopped to function on a large scale, leading to a significant deterioration of living, social and sanitary conditions of the population. This situation gave rise to serious problems, particularly for urban residents. People started to use kerosene, gas and firewood fuelled stoves. As a result of the increased consumption of firewood, illegal and uncontrolled logging of woods, wind-protecting strips and parks took

place. The consequences of these activities posed a direct threat to human health and urban ecosystems and proved to be a heavy burden on household budgets. In addition, electric energy, already in scarce supply, was utilized for the functioning of the thermal power supply system (shifting to electric methods of heating wherever possible), which had a ruinous impact.

The improvement of the municipal heat supply situation is considered as one of the main priorities to increase efficiency levels of the energy sector and provide energy security to the population. Following the resumption of natural gas supplies and the introduction of mandatory payment for consumed electric power, people started to intensively use gas heaters. The relatively low gas tariff has also played a significant role in this development, however, natural gas distributors were unprepared to respond to these developments. As a result, the necessary pressure in the distribution network can not be ensured. In addition, the metering system in place is imperfect and the scale of corruption in the sector is staggering. Because technical standards and norms had not been observed, accidents occurred last winter, resulting in several casualties. Due to improper metering systems, the arrears of the distribution company are continuously growing. Often the Tbilisi Municipality takes on the responsibility for this. The privatization of the distribution company is expected in the near future. However, market forces alone can not guarantee neither price stability, nor energy security, particularly in view of the fact that the current market does not produce environmentally safe energy.

Considering the above, it becomes obvious that to speak about energy security in the heating and hot water supply sectors is so far also premature.

The development of the sector requires the following:

- To work out a strategy and programme for providing the population with thermal energy;

- To establish a legislative-normative framework which would ensure the implementation of the aforementioned program;

- Support and strengthen the establishment of energy servicing companies, the so-called ESCOs;

3.2.5.3 Regional links

The electric transmission system of Georgia is linked with the energy systems of neighbouring countries:

With Russia – by 500 and 220kV voltage lines, with a total transmission capacity of 550 MW;

With Azerbaijan – by a 330 kV voltage line, with a total transmission capacity of 350 MW;

With Armenia – by a 220 kV voltage line, with a total transmission capacity of 200 MW;

With Turkey – by a 220 kV voltage line, with a transmission capacity of 200 MW;

The geopolitical location of Georgia creates favourable conditions for exporting and importing energy resources in the future. However, the capacity of the existing Georgian transmission network is inadequate to support these operations. Therefore, the construction of a new 500 kV transmission line (Azerbaijan-Gardabani-Akhaltsikhe-Turkey) is a positive development. Equally important are those projects that envisage the integration of the Georgian energy sector into a common operational regime with the systems of neighbouring countries.

3.2.6 System Management Methodology and Structure

During the Soviet period the energy system and its management were monopolized by the state and financed by the central budget and not from revenues generated by the sector itself.

After the break up of the Soviet Union, the existing sectoral funding system collapsed but agencies and working methods remained almost unchanged. In the context of the newly established market economy, retaining old ways of managing the energy sector has led to widespread corruption, resulting in bad management, non-payment of consumed energy, irrational use of funds allocated for capital repair works, paralysis of the industry and so forth. The energy crisis was further exacerbated by political instability and the consequences of war.

In 1993 international financial institutions commenced their activity in Georgia[14] and many expressed a keen interest in the energy sector. Initially these institutions provided credits to finance research on the status of the energy sector in Georgia. Since 1994 they began to prepare specific recommendations for the government of Georgia in the areas of structural reorganization, the preparation of legislative frameworks and the development of privatization principles for the energy sector.

3.2.6.1 Implemented Institutional Changes

The principal goals of the structural reorganization of the energy sector were the following:

- Division of functions regarding state policy implementation, regulation and commercial activities;

[14] The World Bank Group, the International Monetary Fund, the European Bank for Reconstruction and Development.

- To liquidate state monopolies, speed up the privatization process and create a competitive environment; to establish a transparent market and attract private investments;

- To improve the supply of energy to customers and to increase levels of energy security of the country;

As a result of structural adjustments carried out in the energy sector, today the management system of the energy sector of Georgia has the following structure:

- The Ministry of Fuel and Energy – its responsibility is to determine and developing country's energy policy. It also provides licenses for the construction of electric power producing facilities;

- The Georgian National Energy Regulatory Commission (GNERC) – is an independent agency which was entrusted with the regulation of electric power and natural gas tariffs in the area of generation, transmission, dispatch, distribution and import-export licensing;

- The State Regulatory Agency for Oil and Gas – it provides licenses to oil and gas related operations in Georgia;

- The National Oil Company of Georgia – the NOCG is a joint stock company. Its main function is to administer the state owned shares of oil and gas produced in Georgia;

- The Georgian International Oil Corporation – the GIOC is a joint stock company. It is responsible for the transport of oil and gas from the Caspian Sea region;

- The Georgian Natural Gas Transportation International Corporation – the GNGTIC is a joint stock company. It is responsible for main gas pipelines and the transportation of gas (with the exception of the Caspian region);

In order to enhance their institutional capacities and raise the level of efficiency of their activities it is necessary:

- To entirely relief the Ministry of Fuel and Energy of its economic functions and to focus its activities towards working out an energy development policy, strategy and programme and ensure the implementation thereof;

- To set up a consultative board of energy experts which will assist the Ministry of Fuel and Energy in: managing energy resources; providing expertise to technical and investment projects; monitoring the outcomes of implemented projects and developing subsequent recommendations.

- To speed up the privatization process in the electric power and natural gas distribution sectors;

- To improve the management of the wholesale electricity market and to ensure its transparency;

- To establish expert services for monitoring energy security;

3.2.7 State Regulation Structures

Since 1994 national policy has focused on the restructuring of the energy sector. Privatization and de-monopolization have become the main components of this policy.

3.2.7.1 Privatization

In Georgia, the initial phase of energy enterprise privatization has been carried out between 1992-1994. Small hydroelectric power plants have been privatized during this period. Their installed capacity made up 2% of Georgia's overall installed capacity. The process was carried out with insufficient transparency and vaguely determined procedures.

In 1998 the large-scale privatization of the energy sector commenced. By the end of the same year, AES bought the majority shares of "Telasi", a Tbilisi based distribution company.

By the end of 1999 AES had bought 80% of the shares of "Tbilsresi" units 9 and 10 and 100% of the shares of the "Khrami-1" and "Khrami-2" hydropower plants as well as rights of management for 25-years. The total capacity installed for the aforementioned stations is 823 MW (600 MW of the thermal power plant).

The Georgian government also decided to privatize the companies "Electrogadatsema", "Electrodispetcherizacia-2000" and the Georgian Wholesale Electricity Market[15]. Management rights were transferred for a period of 5 years. This decision has been fully implemented. By now all power generating facilities in Georgia, except the Enguri HPP, either have been, or are in the process of being privatized. The same applies to electric power distribution, transmission and dispatch companies. Preparations for the privatization of natural gas distributing companies are currently under way.

3.2.7.2 Assessment of Structural Changes

Institutional changes which have been carried out in the energy sector in terms of dividing political, regulatory and commercial functions, can be considered progressive. This particularly applies to GNERC, which pursues a transparent tariff policy and makes its normative acts available to the public.

Unfortunately, the same cannot be said about the Wholesale Electricity Market, which still requires serious management reforms. In order to execute these reforms, the WEM had been transferred to a foreign company including the right of management.

[15] Decree # 254 of the President of Georgia, 28/06/2001

Since the entrance of AES-Telasi on the market, market economic relations have been established in the power sector. This has led to the significant improvement of electric power supply, which can be considered a positive development.

However, the significant increase of electric tariffs has become a problem for the consumer, also in terms of energy security. The increase of tariffs is not paralleled by an increase of household incomes, creating obstacles for AES-Telasi to recover their costs.

Natural gas distribution companies face similar problems. At the present, they are still subject to the state and encounter continuous financial problems.

In view of the levels of energy sector reliability and energy security in Georgia, the effectiveness of measures undertaken up to date can be assessed as follows: The present tariff level is not affordable for the majority of population and the stability of energy supply has been only partially improved (basically in Tbilisi only). In terms of institutional arrangements, the current legislative framework does not guarantee the non-interference of state agencies in activities undertaken in the energy sector. Corruption in the sector has not been eliminated yet.

3.2.8 The Utilization of Local Energy Sources

As noted above, energy generating facilities are unevenly distributed across the territory of Georgia. Regular electricity supply in the regions is problematic. Wood is used as the main source for heating; non-traditional energy sources are not being developed and the utilization of biomass is limited. On the other hand, Georgia is rich in renewable energy resources and their development and utilization would be possible in every region. It is feasible to work out local development strategies and carry out pilot projects, which require only small investments. Implementing such projects with the assistance of international and bilateral donors would create initial incentives. The development of local energy resources in conjunction with ensuring energy security would encourage the development of small and medium business in the locale. Employment would be created and negative impacts on the environment reduced.

Over the last 10 years, Georgia has passed approx. 20 normative acts directed toward sustainable development and the development of renewable energy resources. Unfortunately, these normative acts have so far remained only on paper and have not been executed. The establishment of a flexible and viable system for encouraging “green” energy producers needs to be promoted.

3.2.9 Financial Status of the System

Today, the energy sector in Georgia is a non-profitable branch of economy, which mainly results from the non-payment of consumed energy. In addition, weak management and corruption aggravate this situation.

3.2.9.1 Utilized investments

The Georgian energy sector represents a branch of the economy in which investments exceed the volume of investments in all remaining sectors[16].

Investments made in the energy sector under the structural adjustment facility amounted up 400 million USD. An additional 170 million USD were invested in the rehabilitation of power generating facilities.

Approximately 700 million USD of private investments were made in petroleum sector, of which the share of international financial institutions made up 150 million USD. Approximately 250 million USD of private investments (by AES) were made in the power sector, of which the share of international financial institutions made up 60 million USD. Another 1,320 million USD of investments in the petroleum sector are planned[17].

The natural gas sector is currently in the process of privatization and here, too, significant private investments are to be expected (100 million USD).

Regardless of the sizable amount of investments that have been made in the sector, the condition of the Georgian energy sector remains highly unsatisfactory. The absorption process of targeted investments is not transparent, leading to many questions. In addition, no monitoring or impact assessments of projects implemented are being undertaken (this especially refers to rehabilitation works conducted in Tbilsresi). Due to this shortcoming, the actual value of energy produced cannot be determined.

As a consequence of large-scale corruption it becomes impossible to effectively utilize those limited investment opportunities provided by international donors. In the event of a grant or a soft credit becoming available, a series of dubious projects would immediately emerge. Explicit or concealed lobbying of respective projects from parts of government representatives can be frequently observed.

On the other hand, it would be possible to achieve significant improvements within a relatively short period of time, provided principles governing transparency, privatization and market economic relationships are adhered to.

Geothermal water and small hydro power projects are expected to be implemented in the coming year. Resources will be attracted from various funds to co-finance these projects. This will significantly raise the energy security levels in the regions where projects will be implemented.

[16] Investments imply both private direct investments and credits that have been allocated to the Government of Georgia in form of targeted credits by international financial institutions.
[17] The figure does not include those investments that will be necessary for the construction of the Baku-Tbilisi-Ceyhan oil pipeline and the Baku-Tbilisi-Erzerum gas pipeline.

3.2.9.2 Energy Supply Tariffs

The investments that were made in the electric power sector naturally led to an increase of electricity tariffs. Investments in the oil sector were primarily used for building transit infrastructures and they have therefore not affected tariffs for petroleum products.

The Georgian National Energy Regulatory Commission sets consumer tariffs for electric power consumers and periodically adjusted tariffs for generation, transmission, dispatch and distribution facilities. Commercial transactions and financial settlements are carried out via the Georgian Wholesale Electricity Market.

During 1998-2001, electricity tariffs for the residents of Tbilisi have increased by 2.8 times (from 0.045 GEL/kWh to 0.0124 GEL/kWh). This was a result of the privatization of the Tbilisi distribution company. Investments made in the company also account for increased tariffs. In other regions of Georgia tariffs do not exceed 0.084 GEL/kWh (0.038 USD).

Over the recent years, natural gas tariffs have not significantly changed. At present, the natural gas tariff for consumers lies at 125 USD/1000m^3 (in 1993 it amounted to 48 USD/1000m^3; for thermal power plants 50 USD/1000m^3).

The market for the distribution of other energy resources is not monopolized and prices are regulated by the market[18].

3.2.10 Scientific and Technical Potential

In the former Soviet Union much attention had been paid to the establishment of adequate scientific-technical capacities in the energy sector. In Georgia, there were a number of acclaimed scientific research centers, staffed with highly qualified scientists and technical engineers.

Today the activities of these centers are limited, their material and technical base is obsolete and in need of modernization. The majority of scientific centers working in the energy related field (universities, scientific-research institutes, laboratories, etc) is unable to finance themselves in a market economic environment, and the state is unable to provide sufficient assistance. This situation resulted in a flow of highly qualified scientific and technical staff to private companies, international projects, others migrated abroad for work. In addition, the fragmentation of the core staff resulted in a sharp decline of coordinating activities, which adversely impacted the mobilization of domestic human resources for the development of concepts, strategies and planning of the sector.

[18] However, an artificial monopolization of petroleum products and liquefied gas does occur to a certain degree.

3.2.11 Levels of Efficient Utilization of Energy and Energy Resources

The present efficiency level of energy resource utilization in Georgia is extremely low. During Soviet times, the energy intensity of total national production exceeded the same index in developed countries 5 times. Today, however, the situation looks different. For instance, the amount of consumed electric power in relation to the GDP amounts to 2 kWh/USD whereas in developed countries this value ranges between 0.28-0.6 .

Although the level of energy efficiency of electric power facilities has been studied more or less extensively, this has so far not been the case of industrial enterprises. Energy audit practices do not exist in the country. Energy audits conducted within the framework of international projects revealed not only a low energy efficiency level of the equipment, but also that the majority of operating enterprises use the same equipment and appliances (electric-mechanical) they were using when the volume of production was significantly higher than today's. This practice of wasting energy ultimately results in a sharp decline of the energy efficiency index.

Energy saving remains a separate topic. Throughout the Soviet period the necessity to save energy had virtually not been recognized, since energy prices were extremely low and resources abundantly available. Therefore, neither households nor entrepreneurs have developed energy saving practices. Yet, even with the predominant usage of electrical and heating devices, it would be possible to reduce energy consumption considerably. In particular, installing thermal insulators in heated and air-conditioned buildings would make electricity usage more cost-effective.

Due to these circumstances, the objective of increasing the efficient utilization of energy resources acquired strategic importance for Georgia.

The phrase "improvement of energy efficiency" is ubiquitous in documents, however, mechanisms for their implementation are not defined anywhere. As of today, a legislative framework for resolving these issues is not in place.

This legislative vacuum ought to be filled as soon as possible. Taking into account current global processes, particular with respect to the prioritization of the environment in development strategies and the preparedness of developed countries to assist developing countries and countries in transition to resolve their problems, also requires the co-operation and preparedness of the Georgian state. By next year, the Kyoto mechanisms, deemed to be the most powerful mechanisms up to date, will be activated. Their initiation will give Georgia the opportunity to take decisive steps toward increasing energy efficiency levels as well as promoting its renewable energy sources.

As already noted above, the potential for energy saving in Georgia considerable if targeted energy policies were implemented. To facilitate the implementation of energy efficient/energy saving technologies, the following measures need to be taken:

- Ensure training/retraining of managers of enterprises in the field of energy;

- Improve and apply heating, hot water supply and ventilation standards and rules in the construction industry with the aim of reducing energy consumption;

- Evaluate the economic efficiency, cost effectiveness and capacities of low temperature heating sources;

- Work out and implement phased energy cascade utilization projects;

- Work out the conditions for the allocation of low interest rate credit lines to encourage the adoption of contemporary energy efficiency technologies.

3.2.12 The Degree of Adverse Impacts on the Environment and Human Health During the Production and Consumption of Energy

As indicated above, one of the main energy security indicators is the degree of adverse impact on the environment and human health during energy production and consumption. With the aim of developing an environmental impact assessment and a response action strategy, an inventarization of industrial facilities, including energy facilities, is periodically carried out in the country. Although reporting on the emission of harmful substances is carried out on a regular basis, the reliability of the data is far from satisfactory. This is due to the fact that assessments are based on the Soviet period methodology and they rarely supported by actual measurements. Therefore, environmental impact assessments carried out by the energy sector are approximate and do not necessarily reflect the real situation.

Medium and long-term environmental impact projections are even more approximate, since possible scenarios for the development of the energy sector for this period do not exist.

Until recently, the environmental impact of energy facilities as considered only in terms of harmful substances affecting human health and did not take greenhouse gases causing global warming into account. Since Georgia joined the UN Framework Convention on Climate Change the situation has changed. The first National Inventory of greenhouse gases was carried out.

The emission of greenhouse gases has been significantly reduced since 1990 as a result of the existing energy crisis. In 1990, emissions from the energy sector (of CO_2 equivalents) amounted to 32.2 mln t[19] , i.e. 70% of the total emissions. In 2000, this figure equaled 4.6-mln t and constituted 33% of the total emissions.

In order to rehabilitate the energy sector of Georgia and reach an adequate level of energy security, one of the principal goals of a national energy policy should be to ensure the minimal growth rate of emissions of greenhouse gases. This would allow Georgia to fulfill its commitments assumed under the UNFCCC, as well as to make the country a recipient of the benefits attached of the aforementioned Convention and its mechanisms. Currently the

[19] Excluding the transport sector

specification of the operational scheme of the Kyoto mechanisms, in particular, its "Clean Development Mechanism", is under way. Georgia is actively involved in this process. The likelihood of a successful realization of this effort is very high. This would be reflected in a global, sustainable long-term strategy of energy development, based on increased energy efficiency levels and the promotion of renewable energy sources. The country is following the path in this direction: energy sub-sectors that appear suitable for this purpose have been selected; studies have been accomplished and the first series of projects, so-called pilot projects, have been designed. The Ministry of Environment and Natural Resources Protection via the National Agency on Climate Change, the Ministry of Fuel and Energy, the Ministry of Urbanization and Construction, other governmental organizations and private companies are engaged in this process. Negotiations with donors on financial provisions for the implementation of pilot projects are underway. It can be said that interdepartmental cooperation is satisfactory and environmental aspects, i.e. with respect to climate change, have been successfully integrated.

The impact on human health during thermal energy production has virtually not been studied. As noted above, households often use technically inadequate equipment and poor quality fuels for heating. It is assumed that this adversely affects human health. As for the impact of electric energy generation, transmission and distributing facilities on human health, safety standards are only formally, rather than actually, complied with. The health of the Georgian population is little protected from harmful impacts emanating from energy facilities.

3.2.13 Raising Public Awareness

Raising public awareness can play an important role in energy security. Energy related problems can only be resolved and identified goals achieved with the active participation of the energy consumer represented by the general public. The results of public participation will be the following:

- Consumers will reduce their energy consumption if they know that energy has to be paid for;
- Consumers will have an incentive to decrease energy consumption at certain times of the day when servicing prices are high;
- A growth of local private investments is anticipated, also in the form of households acquiring equity shares;

3.3 GEORGIA'S FUNCTION AS A TRANSIT COUNTRY AND SUSTAINABLE DEVELOPMENT

3.3.1 The Transit Infrastructure of Georgia

The transit infrastructure of Georgia covers:

1. The transport infrastructure proper (railroads, roads, seaports, airports, means of transport, pipelines and electric transmission lines);
2. The current legislative framework and international commitments related to transit shipments;
3. The institutional management system;
4. Tariff policy;

3.3.1.1 Transport Infrastructure

The principal technical parameters of the existing infrastructure and the condition of the respective transport sectors are given below:

Railroad. The total length of the rail-track network is 1,576 km, of which 974 km are used for railroad transportation, constituting 3.8% of the TRACECA Corridor railroad network. The Abkhazian railroad section, which is at present not used, is 188 km long. Virtually the entire rail-track network is electrified; 67.4% of rails are single-track lines; 6.2% of operating alarm systems are automatic, 48.8% are semi-automatic, meaning that half of the rail network is operated by personnel. The maximum technical velocity is 54 km/hour; the velocity of freight and commercial carrier trains is 30 km/hr and 22 km/hr respectively. The electric locomotive fleet comprises 244 units of which 67% are more than 20 years old; the switch engine locomotive fleet comprises 184 units and is more recent; the cargo rolling stock of different ages comprises around 11 thousand units.

Roads and transport. The length of the commonly used motor roads amounts to 21,577 km, of which 5 are highways used for international haulage with an overall length of 859 km: 1) Poti-Tbilisi-Red Bridge; 2) Mtskheta-Kazbegi-Larsi; 3) Sarpi- Batumi-Ureki-Samtredia; 4) Khashuri-Akhaltsikhe-Turkish border; 5) Tbilisi-Marneuli-Guguti. At the Poti-Tbilisi-Red Bridge highway, the width of the Poti-Senaki section is 7 meters, which limits the overall capacity of the highway. Georgia's highway of the first category is composed of four or more lanes and is 15 km long.

Marine ports and fleets. The TRACECA onshore infrastructure merges with marine transport at the ports of Batumi and Poti.

Batumi's Port has 11 berths with an overall length of 2.3 km. The capacity for general cargo amounts to 2.3 million tons per year (m t/year) and for liquid freight 8.8 m t/year. Despite the fact that new capacities are being added to the port infrastructure, including a railroad-

ferry terminal, its potential capacities remain underutilized. Berths are loaded on average at 37%.

The Port of Poti possesses 14 mechanized berths with an overall length of 2.8 km and a capacity of 3.6 m t/year. The capacities of the Poti Port have increased with the operation of road and railroad ferry terminals. However, only 43% of the port's total capacities are currently used.

The marine fleet of Georgia consists of 13 tankers of various displacement tonnages. At present, the majority of these vessels have been transferred to the Columbia Shipping Management Company. The Hamburg Land Bank has chosen this company to manage the fleet to recover outstanding debts.

Pipeline transport. The Baku-Supsa export oil pipeline, which was commissioned in 1999, is the Western Route transit pipeline of Georgia. It is a modern construction complex with unique facilities and equipment. The total length of the 530mm-diameter pipeline is 830 km of which 370km lie within Georgia. The projected capacity of the pipeline is 6m t/year.

The Supsa terminal is part of this pipeline infrastructure, having 4 reservoirs with the volume of 40 thousand tons. The 8.2 km-long sub-sea pipeline extends from the terminal to a floating facility where tankers are loaded with crude oil.

Airports and navigation systems. The airports of Tbilisi, Kutaisi, Batumi, and Senaki service international air traffic. EBRD (European Bank for Reconstruction and Development) funded rehabilitation works were undertaken at the Tbilisi airport. Tbilisi airport, like other airports of Georgia, meets international requirements for passenger and cargo turnover carriages. However, standards of passenger and cargo servicing are low and do not meet international standards. The internal air traffic market of Georgia is monopolized, with 91% of shares belonging to one local carrier. In addition, the declining market share of national carriers is evident, indicating their lack of competitiveness in comparison to foreign aviation companies. As far as the air corridor is concerned, transit volume and safety have increased as a result of upgrading of the air navigation system. The American company Northrop Grumman implemented the project. The realization of this project has increased transit flight capacities through Georgia's air space.

Telecommunication systems. The construction of the Georgian section of the Trans-Asia-Europe fiber-optic cable system is in its final phase. The construction of the main sections of the main line has already been finalized. Those are the lines at the Tbilisi-Azerbaijan border, the Tbilisi-Armenia border, Tbilisi-Khashuri, and Kutaisi-Zestafoni. The length of the main line will total 678 km. The Poti-Rize fiber-optic underwater main cable construction project is being implemented in parallel. The laying of fiber-optic cable along the railroad from Poti to the border with Azerbaijan and Armenia along the rail traces has been financed by the EU and work is rapidly progressing.

Electric transmission lines. Georgia is linked with its neighbor countries by 220, 330 and 500 kW main electric transmission lines. Although Georgia's energy system today is constrained by its deficits, the increase of power generation in the future will enable Georgia to export energy to neighboring countries using the existing transmission infrastructure. It is

noteworthy that the scope of present electric power transit is limited to a local and regional scale and, in contrast to other forms of transport, is limited to the Caucasus.

3.3.1.2 Institutional Management Systems

The transport infrastructure of Georgia does not have a unified management system. The Ministry of Transport and Communications manages the traditional transport and telecommunications infrastructure, while the management of the pipeline infrastructure lies within the responsibility of the Georgian International Oil Corporation. Electrical energy transit management is the task of the Ministry of Fuel and Energy. The fragmentation of management among various agencies complicates the development and implementation of a single transit policy. Many aspects, however, neither lie within the field of competence of individual sectors, nor the competence of the aforementioned ministries and there is great need to develop a unified management system on the governmental level.

3.3.1.3 Legislative Frameworks and International Agreements

The legislative framework regulating infrastructure is based on a traditional conception of economic sectors. Traditional development concepts for the transport sectors (railroad, roads, air, and marine), as well as those for pipeline and electric transport, are in place and legislative activities have been based on these concepts. With regard to the traditional transport sector, the Georgian “Law on State Management and Regulation of Transport and Communication of Georgia”, enacted in 2001, is the principal legislative instrument. Laws concerning different modes of transport are also in effect. Overall, 88 legislative, sub-legislative acts and regulations have been enacted. In addition, Georgia is party to 12 road, 18 maritime, and 8 civil aviation conventions. Georgia also participates in bilateral and multilateral agreements, of which the “Serakhs Agreement” signed by Azerbaijan, Turkmenistan, Uzbekistan and Georgia in 1996 and the “Basic Multilateral Agreement on International Transport for the Development of the Transport Corridor Europe-Caucasus-Asia”, signed in Baku in 1998, are particularly noteworthy.

The legal framework governing the development of pipeline transport is predominantly regulated by intergovernmental Agreements and so-called “Host Government Agreements”. These concern the Baku-Supsa pipeline as well as the planned Baku-Tbilisi-Ceyhan and Baku-Tbilisi-Erzerum pipelines.

Unfortunately, a unified development strategy for the entire transport infrastructure of Georgia has not been elaborated up to date. Any emerging concept should focus on the comprehensive development of objectives including all modes of transportation. A co-ordination mechanism with the countries located along the transit corridor should be established with the goal of developing a common strategy. The existing legislative framework is fragmented, being neither comprehensive nor adequate.

3.3.1.4 Tariff Policy

The issues outlined above are the main reasons for the lack of an effective economic policy targeted at the rational utilization of Georgia's transit capacity. This incoherence is also reflected in the tariff policy of Georgia. The unsystematic nature of its tariff policy, as well as its uncoordinated implementation in the transport sector, considerably impedes the effective utilization of Georgia's transit capacities. As a result of the slow process of transport system reform against the background of unregulated legal and hierarchical relations among various levels of management, transport enterprises set unjustifiably high tariffs to maximize short-term profits. According to the indices of recent years, tariff levels have increased. Furthermore, tariffs often change without any prior notification. The winners of these tariff policies are the ports of Poti and Batumi, as well as the railroad, which make excess profits. The TRACECA Corridor, on the other hand, loses potential transit freight, which is being diverted to more competitive transport corridors. Relevant clauses of the Serakhs and Baku multilateral agreements are vague and led to different interpretations among signatory states. Consequently, it becomes difficult to reach an agreement on a common tariff policy according to modes of transport. In this context, the decision made at the meeting of 24-25 April 2002 by the TRACECA Intergovernmental Commission regarding the development of the so-called "TRACECA Coefficient" for railroads and ports is noteworthy. In the event of its implementation, the decision would constitute a step forward toward designing a common and competitive tariff policy.

As far as pipeline transport is concerned, multilateral agreements for the operation of the Baku-Supsa oil pipeline, the Baku-Tbilisi-Ceyhan and Baku-Tbilisi-Erzerum pipelines have been reached for the coming years, including the regulation of tariffs. High expectations have been placed in all three projects, but the actual strategic benefits are great for Georgia in particular and entirely correspond with its long-term interests.

3.3.2 The Transit Corridor

The transit corridor of Georgia is part of the Europe-Caucasus-Asia Transport Corridor. The Europe-Caucasus-Asia Transport Corridor comprises a number of sub-corridors, which are categorized according to the types of commodities shipped and the mode of transportation. A brief description of these sub-corridors is given below:

TRACECA Corridor. The TRACECA Corridor is part of the Europe-Caucasus-Asia Transport Corridor, where traditional modes of transport are employed for haulage. The volume of freight shipped through this corridor has been characterized by an upward trend since 1997, making up 33.1 million tons in 2001. The number of passenger transport increased from 1995, exceeding 242 million in 2001. During the past 6 years, freight volumes handled at the ports of Poti and Batumi also increased, amounting to 11.8 million tons in 2001. In 2001, the contribution of the transport system to the budget amounted to more than 142.8 million GEL, which was almost 9 times more than in 1995.

Cargo transportation has also experienced a growth in volume. Crude oil and petroleum products make up 84% of railroad transit. The rate of transit freight shipping currently makes up 33% of total shipments. Shipping primarily depends on the railway system and to a lesser extent on the ports. The share of road and air transport in transit freight carriage is insignificant.

As far as the geography of transit transportation is concerned, data indicates that a large share of cargo passing through Georgia is held by the states of the South Caucasus. For instance, Georgia accounts for 13.3% of freight flow, Armenia - 9.4%, and Azerbaijan - 74% (including Chevron oil), Turkmenistan - 1.5%, Uzbekistan - 1.5%. Other Asian countries account for 0.3%. Taking annual figures into account, the share of the South Caucasus is increasing.

East-West Energy Corridor. Currently, the East-West Energy Corridor is used for transporting relatively small volumes of Caspian oil and electric power generated in the Caucasus (including southern Russia) to Turkey and vice versa. Oil is transported through the Baku-Supsa pipeline and its secondary infrastructures and by the "Railroad-Port" technological transport unit.

The commissioning of the Baku-Tbilisi-Ceyhan Main Export Pipeline and the Baku-Tbilisi-Erzerum South Caucasus Gas Pipeline has been scheduled for 2004-2005. This will allow the transportation of large quantities of energy carriers to international markets.

In a long-term perspective, one more component will be added to the Europe-Caucasus-Asia Transport Corridor. With the completion of the fiber optic cable communication system and the realization of the plans for the space telecommunication system, the quality of performance of the corridor will increase. A **telecommunication corridor** will be established that will effectively address issues such as cargo transportation (safety and reliability), the optimization of routes, the creation of operational ties between cross-border and customs services and ensure standards of pipeline safety.

With the process of settling conflicts in the South Caucasus progressing, the prospects for the establishment of the equally important North-South transit corridor are promising. This would further strengthen Georgia's role as a transit country. Today, north to south transit from Russia to Armenia is confined to natural gas. Upon mutual agreement, a limited exchange of goods between the two countries takes place.

3.3.3 Competitiveness of the Transit Corridor

Compared with other transport networks, the Europe-Caucasus-Asia Transport Corridor is relatively new, with only a short record of transporting goods, passengers and information. Established transit corridors, such as the transport systems crossing Kazakhstan and Russia or the communication lines linking Central Asia with the ports of Iran and Turkey, are in a continuous process of improvement despite their complexity. Therefore, attracting vitally important cargo flows to the Europe-Caucasus-Asia Transport Corridor faces tough

competition. It is impossible to create a competitive transport corridor without state support. Moreover, mutual agreements and mechanisms for the coordination and cooperation between the states of the South Caucasus and Central Asia have to be reached to ensure the viability of this transit corridor.

Regardless of the increase of freight traffic volumes within the Georgian section of the TRACECA Corridor, a number of signs indicate that the overall competitiveness of its main line is declining. These signs are the following:

- Motor transport in Georgia consists predominantly of export/import traffic between Georgia and neighboring countries, and of transit traffic through Georgia. During the year, the volume of transit cargo has not exceeded 300 thousand tons. The main reasons for this are complicated border crossing procedures and illegal activities of the road police, deteriorating safety standards, and the low cost-effectiveness of traffic on Georgia's highways. It takes 4-5 days for vehicles to pass through the Georgian transit section (450 km) instead of 1 or 2 days. Taxes (including unofficial ones) in total amount to 700-800 USD, i.e. each kilometer of road costs almost 2 USD. In Europe 1 kilometer of road costs only half as much. Consequently, Turkish companies prefer to use the route through Iran to reach destinations in Azerbaijan and Central Asia. Although this route is 500 km longer, it is 3 times cheaper. It should be noted, however, that obstacles related to customs procedures, technical constraints, and bureaucratic formalities are also common to other countries lying along the Corridor.

- More than 95% of the transit cargo hauled across Georgia, both by motor vehicles and rail, originates in Azerbaijan and Armenia. The share of freight from Asian countries is insignificant and according to the data of recent years, is falling. A declining trend for the TRACECA Corridor is apparent. One of the reasons for this is a more flexible tariff policy in the corridors running across Russia and Iran. For example, the transport cost of 1 ton of dry cargo via one the aforementioned corridors per km is 51.1% less than transporting it through Georgia. A similar situation applies to container shipments, where the price difference amounts to 63.3%. A second important factor, which adversely impacts the competitiveness of the TRACECA Corridor, is the presence of two ferry crossings on the route. The technical aspects related to ferry crossings diminish railroad carriage indicators both in terms of velocity and cost effectiveness. The third factor is the lack of reliability of the banking system, which processes payments rather complicatedly. As a rule, a barter exchange mechanism is used. Although this is more profitable for foreign partners, it nevertheless carries certain risks.

- Freight from Azerbaijan and Armenia accounts for a large part of the freight (54%) handled in Georgian ports. Asian cargo amounts to less than 3%. Unjustifiably high tariffs for port service are the major reason for the small share of Asian cargo, especially when compared to other, more competitive ports on the Black Sea.

- As a consequence of the factors outlined above, the overall volume of transit freight traffic lost by the TRACECA Corridor amounts to nearly 15 million tons per annum. The biggest potential losses are crude oil (6.2 m t), petroleum products (1.0 m t), cotton (0.8 m t), foodstuffs (0.7 m t), and grain (0.5 m t).

- The reduction of volumes of Kazakh crude oil transportation through the TRACECA Corridor is also a result of Kazakhstan having commissioned the Caspian Pipeline Company pipeline, running from Tengiz to Novorossiysk, with this task. The operation of the Baku-Tbilisi-Ceyhan oil pipeline will most likely make the situation for the "Railroad-Port" technological unit even more difficult.

In comparison, the East-West Energy Corridor is developing more progressively. Oil transportation indices for the Baku-Supsa pipeline infrastructure have already approached the planned level, a strong indicator of the competitiveness of the Energy Corridor. At the same time, the Baku-Tbilisi-Ceyhan Main Export Oil Pipeline and the Baku-Tbilisi-Erzerum South Caucasus Gas Pipeline projects are already under implementation. The building of this infrastructure, which accords to international standards and shows a high level management, will create all the pre-requisites for re-establishing the competitiveness of the energy corridor and ensure its subsequent growth. This particularly applies to oil transit. Kazakhstan has already expressed its preparedness to actively utilize the South Caucasus route for the export of its oil. In the long-term, it is not to be ruled out that a part of the crude oil from Novorossiysk will be carried via the Baku-Tbilisi-Ceyhan pipeline. This in turn will require the construction of a connecting pipeline running across Abkhazia.

The analysis of factors conducive to and impeding the development of Georgia's capacity as a transit country demonstrates that as of today the sustainability of this capacity is not ensured. Moreover, as the TRACECA Corridor is limited to the South Caucasus, the problems related to its declining transit function become increasingly obvious. Despite the overall increase of transit traffic through Georgia, mostly of cargo from the South Caucasus, a significant share of Asian freight has been lost. It is possible that in the future Asian freight, the volume of which will be more sizable than cargo from Azerbaijan and Armenia, will bypass the TRACECA Corridor entirely. In the event that existing shortcomings are eliminated, the possibility of restoring and increasing the competitiveness of the TRACECA Corridor still exists. This should be one of the major factors in determining the sustainability of Georgia's transit capacity. The East-West Energy Corridor is another important factor to be taken into account. In comparison to the TRACECA, it is marked by continuous development and the Corridor is the key determinant for Georgia's status as that of a transit country. However, the functioning of the East-West Energy Corridor is temporally limited, since it will cease operating as soon as the stocks of hydrocarbons in the Caspian basin are exhausted.

3.3.4 The Transit Function of Georgia in the Context of Sustainable Development

Georgia's transit capacity is one of the country's potential major competitive advantages. Along with its natural climatic conditions, human resources and other assets, the state must ensure the sustainable development of the country in line with the process of globalization. The transit capacity of Georgia has paramount importance in view of the country's subsequent development. However, should transit capacity be assessed according to the principal documents adopted at the "Earth Summit," then its importance on the development of the country in terms of political, economic, social and environmental aspects needs also to be considered.

3.3.4.1 Political Implications

For a small and weak state like Georgia, caught in the complicated process of state building, it is crucial to acquire international functions. In conditions where ensuring and strengthening state sovereignty still remains acute on the agenda, international security guarantees are of paramount importance. Georgia's capacity as a transit country considerably attracts the interest of the international community. Georgia's geopolitical and geo-economic position is of interest to the international community, particularly with respect of the country's potential role as a link between Europe and Asia. Today this role also implies the transit of passengers and cargo. In the long run, as the transit corridor develops, it will attract further foreign investments, which will lead to the promotion of contemporary business ethics and, more specifically, contribute to the establishment of western values. The institutionalization of market economic principles in the region should be conducive to the process of democratization and the deepening of reform processes in the South Caucasus and Central Asia. Accordingly, the transit corridor could become the "corridor of values", promoting the establishment of stability guarantees between the states of Eurasia in the future.

Georgia's transit capacity also plays a role in regional integration. Trade relations and networks of economic interdependence between Europe and Asia considerably contribute to regional cooperation among the states of the South Caucasus and Central Asia, particularly in relation to the energy transit from the Caspian basin. Cooperation is conditioned by the correlation of the national interests of respective countries and the existence of an infrastructure. Regional integration is the basis for peace and stability, which is an essential pre-condition for unimpaired trade relations between the West and the East.

3.3.4.2 Economic Implications

Given the bad condition of the Georgian economy and its poor export base, transit services acquire even greater importance. Since the inauguration of the TRACECA Corridor, according to last year's data, budget revenues have been increasing steadily: in 1995-2001

average annual growth amounted to 20 million GEL, in 2001 overall payments to the budget amounted to 142.8 m GEL, exceeding 10% of the GDP[20]. However, revenues generated from transit cargo turnover are more substantial.
Transit oil revenues from pipeline transport are still modest, totaling 20 m USD over the recent years. It is projected that the future operation of the Baku-Tbilisi-Ceyhan pipeline will generate on average 62.5 m USD annually. In addition, the volume of imported freight required for infrastructure construction will generate considerable additional revenues from the railroad, automobile, marine and aviation transport sectors.

The transport of gas through the Baku-Tbilisi-Erzerum pipeline will also generate profits. As a result of the monetization of gas received free of charge in exchange for transit, as well as that purchased at a special price, the nominal annual revenues to the Georgian budget will amount to 175 m USD. Most importantly, with the implementation of the project, Georgia's energy security problem will be solved.

In addition, incoming material assets and monetary funds during the implementation of oil and gas pipeline projects will positively impact the balance of payments of Georgia. This in turn will contribute to financial stabilization and the accumulation of foreign currency reserves in the country.

The development of service industries, particularly tourism, is directly related to Georgia's transit capacity. The expansion of transport links will lead to an increase of visitors and tourists and spur the development of the tourism industry.

3.3.4.3 Social Implications

The development of Georgia's transit capacity also has an important social impact on the country. The development of the transport sector is a decisive factor for the improvement of the employment index. Compared with to 1997, the average number of employees in the transport sector has increased by 15 thousand to a total of 75 thousand, of which 56 thousand work in motor transport. Labor remuneration has increased concurrently with economic growth. The average monthly salary in Georgia is 100 GEL. In the air transport sector, the average salary is 200 GEL, 165 GEL in Batumi Port, 136 GEL in Poti Port and 83 GEL in rail transport.

During the construction of the Baku-Supsa pipeline and its related infrastructure, 80% of those employed, i.e. 20 thousand workers, were citizens of Georgia. Of a total of 250 of operational staff, 300 are Georgian citizens. During the construction of the pipeline, Georgian citizens received 25 m USD in salary payments from the oil companies. The average monthly wage of these workers was 380 GEL.

[20] Figures quoted also include the domestic transportation share.

It is envisaged that during the construction of the Baku-Tbilisi-Ceyhan oil pipeline, 40-60 thousand Georgian citizens will be employed. The expected volume of orders in the Georgian industry will amount to 130 m USD.

Seventy thousand Georgian citizens will be engaged in the construction of the Baku-Tbilisi-Erzerum gas pipeline. Approximately 200 research institutes and scientific associations, over 700 independent experts, non-governmental organizations, etc., will be involved in the process. On average, the replacement of more expensive energy sources by gas will generate savings in the order of 750 GEL per annum per family.

Popular expectations regarding the economic and social impacts of these pipeline projects have been higher than the actual gains projected. Nevertheless, the benefits resultant from these projects, both for the country and its population, will be substantial.

3.3.4.4 Transit Capacity and Globalization

The strengthening of its transit role is a critical factor for Georgia's participation in the process of globalization. As volumes of cargo traffic, investments, and information flows increase, the integration of Georgia, also in terms of its participation in the international economy, will equally intensify. This, however, largely depends on the development of its telecommunication systems. At the same time, the weak performance of Georgia's economy and above all, corruption of state institutions, negatively impact development. Illegal migration, drug trafficking, illegal arms trade and the spread of various epidemics (e.g. AIDS), are also aspects that have to be taken into account when assessing Georgia's development. In recent times, the spread of international terrorism has become the focus of attention and critique is growing with respect to Georgia's ineffective border and customs control. In balance, instead of gaining benefits from the globalization process, Georgia may be adversely affected.

3.3.4.5 Environmental Aspects

Notwithstanding the importance of Georgia's function as a transit country, the development of its transport infrastructure must comply with environmental standards. The legislation of Georgia and liabilities undertaken correspondingly according to international conventions and agreements, envisage adhering to environmental principles and to comply with environmental norms and standards during planning and developing the national economy, including the transport system. Due to a series of factors, however, the current situation overall is unsatisfactory. This refers to the TRACECA Corridor, in particular. The major reasons are the following:

1. The transport infrastructure, which was built according to Soviet construction standards, has deteriorated and poses a threat to the environment and human health. Because of Georgia's distinct topography, the low capacity of highways and adverse

conditions in general, the risk of pollution is growing. The poor technological standard of all means of transportation and the use of poor quality fuel further aggravate the problem. Likewise, rail transportation is also associated with a certain degree of risk, due to the low level of automation of one-track lines. In the event that rail rolling-stock traffic will intensify and commercial velocity increases, risk factors will increase proportionally.

2. The Ministry of Transport and Communications is currently in the process of reforming the organizational and control systems of the transport infrastructure. This has not been finalized yet. As a result, the lack of regulation among existing legal-hierarchical levels often hampers effective management, leads to functional redundancy and to the non-compliance with concrete transport policies by sub-sectors. In general, transport enterprises are oriented toward making one-time immediate profits and the payment of government taxes, disregarding environmental standards. Additionally, an environmental monitoring system does not exist, comprehensive environmental statistics are missing, an openly accessible information database has not been developed, environmental audits are either not conducted at all or are informal in nature, and the environmental insurance system is inefficient.

3. The State Commission for Sustainable Development of Georgia has failed to develop a sustainable development strategy that would coordinate the activities of the aforementioned agencies. Unfortunately, the present level of coordination does not meet current requirements. In spite of the fact that, pursuant to the current legislation, the Ministry of Environment and Natural Resources Protection has been delegated to deal with cross-sectoral coordination in order to implement sustainable development effectively, its actual mandate is not strong enough.

4. The resource base to enable the transition of the transport system to sustainable development is rather thin. In the first place, the deficit of theoretical and practical knowledge, among other factors, is conditioned by the inadequate utilization of Georgia's scientific potential. Neither are non-governmental organizations encouraged to participate. The management system in place is not conducive to the development and implementation of innovative programs targeted at a transition to sustainable development. Budgetary financing is inadequate. As far as investment programs are concerned, principal funds are being allocated within the TRACECA programs, as well as those extended by the World Bank, the European Bank for Reconstruction and Development, and other donors. Projects realized under private investments are also noteworthy. However, the latter's contribution is relatively small. Despite the importance of the programs and projects referred to, they are not being implemented in coordination and within the framework of a common strategy. Furthermore, they insufficiently take account of the environmental component and do not always make use of the best technology available for their management and control mechanisms. Finally, the volume and the rates of investments are generally low.

5. Even though the policy of strengthening Georgia's transit function enjoys strong support from the government and general public, the level of public awareness regarding different aspects of sustainable development and the necessity of integrating them is fairly low. The low level of environmental awareness among the general public is reflected in current developments and the lack of implementing a concrete policy. Because support for

environmental policy is mostly based on lip-service, environmental concerns are not accorded priority status during policy planning.

6. Sustainable development principles and requirements are formally referred to in the Georgian legislation. They are also reflected in the various international conventions and agreements to which Georgia is a party. However, a scientifically supported planning and decision-making system with the aim to ensure the integration and implementation of obligations assumed under these documents does not exist. At times the provisions and mechanisms specified by the law are underdeveloped and hamper policy execution.

As distinct from TRACECA, environmental standards are more prominent in the East-West Energy Corridor's development process. This can be supported by the following: firstly, the construction of the Baku-Supsa pipeline meant putting in place a practically new infrastructure which corresponds to modern standards; secondly, from the outset, environmental norms were included in investment costing; thirdly, its automated control system minimizes the risk of unfavourable environmental impacts. Similar standards are envisaged for the construction of the Baku-Tbilisi-Ceyhan and the Baku-Tbilisi-Erzerum pipelines. Despite this, incidents affecting the environment still have occurred along the Baku-Supsa pipeline. It is also noteworthy that the community has not been informed about the fate of the pipeline infrastructure after the exhaustion of hydrocarbon resources and, most importantly, how the environment is going to be rehabilitated.

3.3.5 Principal Measures for Strengthening the Transit Function of Georgia and the Facilitation of the Transition to Sustainable Development

3.3.5.1 Strengthening of the Transit Function

In spite of increasing competition, prospects for increasing the Europe-Caucasus-Asia Transport Corridor's efficiency exist. This claim can be supported by the existing geopolitical and geo-economic reality, as well as the inherent potentials for improving the principal features of the Corridor itself. With the view to realize these potentials, a whole set of measures needs to be undertaken, covering diplomatic, legislative as well as economic management activities and tasks.

At the National Level:

- Develop a unified and comprehensive concept for the improvement of Georgia's transit infrastructure. This concept should consider the development objectives of all modes of transport, including pipeline and telecommunications systems in concordance with environmental standards. Priority should be given to multi-modal principles of transport system development;

- Improve the legislative framework on the basis of the aforementioned concept;

- Create a single system for transport infrastructure management to ensure the implementation of the abovementioned concept;

- Expedite entering into international agreements and treaties and joining new conventions in the area of transport and communications;

- Accelerate the ongoing reforms of the transport system targeted at regulating legal and hierarchical relations among management levels;

- Revise the rates of railroad tariffs and additional charges, as well as freight handling and related service tariffs in the ports of Georgia;

- Develop a specific programme to increase the level of privatization of transport organizations. The aim of the program should be to eliminate shortcomings within the existing privatization processes;

- Abolish the practice of collecting illegal payments and fees on highways and at customs entry check points;

- Create a single renewable data base for transport system operation and development. This base should be put into the Internet to ensure its all-accessibility and availability;

- Promote research activities in the field of analysis and forecast making of transit corridor competitiveness with the participation of the non-governmental sector;

- Ensure regular public awareness raising activities through the mass media.

At the International Level:

- Work out a common strategy of collaboration with partner countries, targeted at the effective use of transit resources in the region. Based on the accommodation of national interests, the strategy should include the goals, objectives measures for transport policy coordination, including those regarding the introduction of a unified tariff;

- In cooperation with partner countries and with the support of the TRACECA Secretariat, to set up a transport corridor information data base which would be available for decision-makers, experts and mass media;

- Develop a special program in conjunction with the European Commission, the World Bank, the European Bank for Reconstruction and Development and the representatives of other donors and investors, with the aim to better coordinate international efforts to improve Georgia's transit infrastructure.

3.3.5.2 Integration of Georgia's Transit Function with Sustainable Development

At the National Level:

- Raise the level of information technology used in the transport system, i.e. the implementation of contemporary telecommunication and information systems in transport. Such systems would ensure the growth of transport efficiency and safety, simplify border crossing arrangements among the countries, as well as create the pre-conditions for promoting environmental protection;

- Give preference to multi-modal principles of transport system development, as a result of which the domination of individual modes of transport (e.g. road transport) based on the policy of narrow economic profitability, would be eliminated. This would contribute to the prevention of extraordinary burdens on the environment;

- Strengthen the mandate of the Ministry of Environment and Natural Resources Protection as an entity to coordinate the transition to sustainable development;

- Strengthen the planning system of environmental protection, including the acceleration of developing a national strategy of sustainable development;

- Improve the legislative framework on the basis of the aforementioned strategy, including the acceleration of the transition of a transport system toward sustainable development;

- Raise the efficiency of ecological insurance and audit mechanisms;

- Strengthen the monitoring system on the status of the environment, including the elaboration of ecological and social standards for transport operations; strengthen the norms governing the burden on the environment and regulate the process and procedures of recording and assessing the relevant quantitative and qualitative data;

- In view of ensuring the safety of the transport system, set up a control system for technical exploitation and the status of transport;

- Establish a sustainable development fund. Payments of fees by transport enterprises for the utilization of natural resources would be one of the sources of replenishing the fund;

- Promote scientific-research work, including the participation of the non-governmental sector with the objective to implement the principles of sustainable development;

- Promote the active involvement of the businesses and banking sector;

- Make use of modern information technologies to promote the transition of the transport sector to sustainable development; create a web-page for sustainable development;

- Promote and disseminate the ideas of sustainable development. Broadly use mass media to this effect;

- Ensure the transparency of distribution and expenditure of international assistance received for sustainable development purposes;

- Continue with the efforts of joining international conventions and agreements on sustainable development.

At the International Level:

- Conduct appropriate work with international organizations, including the United Nations Development Programme, the World Bank, other donor organizations and investors targeted at raising the efficiency of the process of the transition of transport system to sustainable development;

- In conjunction with international organizations, work out a special program regarding the strengthening of Georgia's transit capacity in the context of globalization. This program should be designed to actively contribute to the production of a positive effect for Georgia from participating in the process of globalization and to reduce possible negative impacts;

- Conduct work with international organizations and partner countries with regard to the liabilities assumed by the developed countries on directing 0.7% of their GDP toward assistance for developing countries.

4. CRITICAL GLOBAL ISSUE: EDUCATION, TRAINING AND PUBLIC AWARENESS

4.1 *Education, Training and Public Awareness Raising*

The Law of Georgia on Environmental Protection, adopted on December 10, 1996, defines the basic requirements for the establishment of a system of environmental education in Georgia. In particular, pursuant to Article 8 of the Law, a single system of environmental education should be established in Georgia with the objective to raise the level of public awareness in the area of environment and to train specialists. This system must cover the network of educational institutions, personnel training and re-training institutions. Pre-school, primary, basic, secondary, professional and higher education institutions need also to be included. The given law lays down only general requirements regarding the establishment of an environmental education system in Georgia.

Unfortunately, there is still no law in place that would regulate in a greater detail the legislative requirements of implementing an environmental education system or would determine its place in the educational system of the country. Neither the "Law of Georgia on Education" of June 27, 1997, which specifies the legal requirements for the functioning of the civil educational system, nor the "Principal Directions of Development of Higher Education in Georgia", endorsed by the Parliamentary Resolution of March 1, 2002, which determines the aims, principles and objectives that should form the basis for the future regulatory legislation of higher education, do imply the possibility of integrating environmental disciplines into the educational system. It could be said that at the given time, the Georgian government does not pursue any targeted state policy to orient the educational system towards sustainable development.

There have been a number of attempts to set up specialized environmental faculties in higher educational institutions, but such efforts have not proved to be successful. Nowadays, specialized staff at the various faculties of the Tbilisi State University, Technical University, Agricultural University and other higher educational schools, train specialists only in a limited scope of environmental sciences. No environmental law training for students exists in higher educational institutions up to date. It could be stated that the current curricula of higher education institutions are very weakly oriented toward sustainable development.

There is no unitary system of environmental education in primary schools either. The teaching of environmental disciplines is included in the curricula of a few private secondary schools only. It should also be noted that currently there are no appropriate environmental manuals in Georgia or experienced teaching staff in this area.

This gap is partly filled by awareness raising, capacity building and informational components incorporated into various donor-funded projects. Against the background of insufficient budgetary financing, a special role in environmental education, training and public awareness raising in Georgia is accorded to the technical and financial assistance of international donors, such as the European Union Technical Assistance Trans-Caucasus

Monitoring Service, the UNDP, the WB, the IMF, German Credit Bank for Reconstruction (KfW), the US IDA and others.

However, the number of environmental and educational non-governmental organizations actively participating in the projects targeted at raising the level of public awareness and environmental education among the population is increasing steadily. Yet, it needs to be outlined that the majority of these organizations require serious institutional improvement and material support.

As indicated in the first chapter, in 1999-2000, with the assistance of the WWF and the Ministry of Environment of Georgia in conjunction with the Ministry of Education, a "State Programme on Environmental Education and Action Plan" has been drafted. The basis for the elaboration of this draft was the Order of the President of Georgia # 388 of July 11,1998, "On the Commission for the Development of the State Programme on Environmental Education of the Population". According to the requirements of the order a commission for the development of the state programme for the environmental education of the population was to be set up under the chairmanship of the Minister of Environment of Georgia. The commission was composed of representatives from the Ministry of Education, the Ministry of Labor, Health and Social Affairs and the WWF Georgia Office. The commission was entrusted with the task of presenting a programme draft by January 1, 1999.

The key objective of the programme is to create the necessary preconditions in the country, which are required for the development of environmental education achieving consensus among state agencies, non-governmental organizations and the general public on the conceptual prerequisites, major principles and anticipated outcomes of environmental education. The programme considers environmental education as a multi-discipline teaching process and a social strategy, which enhances the formation of environmental consciousness and environmental values as well as promote practices informed by the latter among the general public. According to the programme, the formation of such a consciousness should be based on the improvement of the formal sector of education, the strengthening of informal educational means and the implementation of a targeted information policy.

The programme defines main target groups and according to the spectrum of these groups, four main strategic directions of environmental education processes are to be taken: Information, communication, teaching and capacity building. These strategic areas must be constitutive of a continuous educational process throughout an entire life-span. According to the programme, in order to cover the whole spectrum of target groups identified, it is necessary to provide non formal education (continuous renewal of knowledge and skills of various target groups by means of organizations outside the formal education system) in addition to formal education (education in state and non state educational institutions). This should be complemented by informational means of education, which are not aimed at any target group and is provided to the population by various communication channels.

The programme identifies a long-term vision and projection of expected outcomes as a result of raising the level of environmental education. This vision laid the groundwork for the development of immediate measures for the environmental education programme. In particular, considering the aforementioned long-term goals and objectives, the following five

strategic priorities have been identified: (1) Strengthening and promotion of integrating and coordinating environmental-educational measures; (2) Putting together of an investment package for the educational programme; (3) Raising the level of environmental education in secondary schools and higher educational institutions with a pedagogical profile; (4) Building the capacities of non-governmental organizations; (5) Informing the representatives of various target groups and the general public about environmental education issues;

Specific measures to be carried out in the country within the next three years have been identified within each area of strategic priority. Mechanisms for monitoring the implementation of the programme and indicators measuring the success of the implementation of various measures have been developed; the agencies responsible for carrying out these measures have been identified.

Even though the draft of the "State Programme on Environmental Education and Action Plan" requires further improvement, the effort of carrying out a purposeful policy and applying a participatory approach in developing a common vision regarding the establishment of a single environmental education system, merits credit.

4.2 Recommendations

- Elaborate and adopt a law that would specify the legal requirements for the functioning of a single environmental educational system in Georgia. At the same time, these requirements should be reflected in the framework legislation regulating the Georgian educational system;

- Approve the draft of the "State Programme on Environmental Education and Action Plan". The provisions of this programme should be integrated into a principal strategic document, or, should it exist, of the development of the educational system of Georgia;

- Following the approval of the draft of the "State Programme on Environmental Education and Action Plan", the measures envisaged by the draft should be taken into account in developing the indicative plans of social-economic development with the view to the subsequent allocation of funds from the state budget for the implementation of these measures;

5. VISION FOR THE COUNTRY'S FUTURE

The analysis presented in the previous chapters has clearly demonstrated that Georgia still has a long way to go in terms of orienting itself towards sustainable development and fulfilling its obligations under the documents adopted at the World Summit.

As indicated in the first chapter, conflicts, a high level of poverty and corruption are the main factors impeding the stable political and economic development of the country. As a result, the state policy of the country in any field of development and social life is to a great extent a reaction to the outcomes and consequences resulting from various developments and not based on a preliminarily planned set of pro-active measures.

This report clearly demonstrates that apart from the factors mentioned above, the following are the significant factors that hamper effective planning and sustainable development of the country:

- Inflexible organizational and management systems of state authorities participating in planning the development of the country, vaguely defined responsibilities of these entities, overlapping and inefficient distribution of competencies among state authorities, weak decentralization of state power. It should be noted, however, that in some sectors structures of public governance have been reformed under the "Structural Adjustment Programmes" and the situation has relatively improved. In spite of this, the management system of these sectors still needs to be improved.

- Incomprehensive legal framework currently in force. During the past years, the old Soviet legislation has been replaced by a new legislation. Nevertheless, Soviet norms and standards are still effective in many areas. A Georgian environmental legislation was developed, but it is in great need for improvement. Environmental legislation and the legislation of various sectors are often incompatible, leading to conflicts.

- Irregular privatization. Following the collapse of the Soviet management system, uncontrolled and spontaneous privatization had been carried out in various sectors of the economy during the first years of Georgia's independence. This practice left its mark on every sector of the country's economy. The nature privatization has been carried out, in addition to the disruption of control and monitoring systems for resource utilization, led to a distorted picture of the resource potential of the country.

- Insufficient financing. Due to the severe political and economic situation of the country, the financing the implementation of environmental measures from the state budget has become impossible.

A critically important factor is the lack of common national interests and the absence of a common vision on the future development of the country. This point in particular, against the background multiple priorities, weak inter-institutional cooperation and an incomprehensive system of social-economic development planning, has resulted in an unsystematic development of the country.

Possible concrete ways for improving the existing situation have been identified in the previous chapters. The following measures should be carried out to ensure country's reorientation towards sustainable development:

- The organizational and management systems of state authorities participating in the planning of the country's development need to be regulated and improved, a clear division of competencies and responsibilities of central and local authorities engaged in environmental planning need to be established. A particular effort has to be made towards strengthening the capacities of these bodies;

- The legislative framework currently in force needs to be improved. In order to eliminate the discrepancies currently existing in the legislation, it is essential to have the environmental and other related legislation currently in place thoroughly analyzed. Proposals for bringing them in compliance have to be developed. It is necessary to improve the procedures for reviewing and adopting statutory acts. It is also important to fill legislative gaps, particularly with respect to sub-laws, which prevent a fulfillment of the obligations determined by the legislation;

- It is essential to have the resource potentials of all sectors of the country's economy recorded and assessed. It is also necessary to analyze current development trends and assess their results;

- Since the existing social-economic situation in the country does not allow to allocate budgetary funds for the implementation of environmental measures, it is necessary to search for alternative sources for the financing of environmental measures;

The implementation of the measures and direction outlined above would undoubtedly contribute to the sustainable development of the country. However, it needs to be outlined that the effectiveness of these measures depends, first and foremost, on the existence of a common national vision on the direction of the country's development. Such a vision can be developed within the framework of a national strategy for sustainable development. This would ensure the compliance and compatibility of economic, social and environmental concerns.

Abbreviations

BS-SAP	Strategic Action Plan for the Rehabilitation and Protection of the Black Sea
BSEP	Black Sea Environmental Programme
EBRD	European Bank for Reconstruction and Development
EIA	Environmental Impact Assessment
GDP	Gross Domestic Product
GEF	Global Environmental Facility
GEL	Georgian Lari
GICMP	Georgia Integrated Coastal Management Project
HPPs	Hydro Power Plants
ICZM	Integrated Coastal Zone Management
ICZMP	Integrated Coastal Zone Management Programme
IDA	International Development Agency
IDPs	Internally Displaced Persons
IMF	International Monetary Fund
IUCN	International Union for the Conservation of Nature
NEAP	National Environmental Action Plan
SEA	Strategic Environmental Assessment
TRACECA	Transport Corridor Europe Caucasus Asia
USAID	United States Agency for International Development
UN	United Nations
UNEP	United Nations Environmental Programme
UNDP	United Nations Development Programme
WB	The World Bank
WWF	World Wide Fund for Nature

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Chapter 3.3 Georgia's Function as a Transit Country and Sustainable Development

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Chapter 1. National Strategy for Sustainable Development
Chapter 2. Integration and Participation
Chapter 3.1 Spatial Planning and Sustainable Development
Chapter 4. Global Critical Issue: Education, Training and Public Awareness
Chapter 5. Vision for the Future of the Country

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Chapter 3.2 Energy Security of Georgia